

MANAGEMENT SITUATION ANALYSIS

Rawlins Resource Management Plan

APPENDICES

The Bureau of Land Management
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APPENDIX A

LAWS, REGULATIONS, AND POLICY

A number of Federal statutes have been enacted over time to establish and define the authority of BLM to make decisions on the management and use of resources on public land. Following is a list of major legal authorities relevant to BLM land use planning, in addition to NEPA.

1. The Federal Land Policy and Management Act of 1976 (FLPMA), as amended, 43 U.S.C. 1701 *et seq.*, provides the authority for BLM land use planning.
Sec. 102 (a) (7) and (8) sets forth the policy of the United States concerning the management of BLM lands.
Sec. 201 requires the Secretary of the Interior to prepare and maintain an inventory of all BLM lands and their resources and other values, giving priority to areas of critical environmental concern (ACECs); and, as funding and workforce are available, to determine the boundaries of the public lands, provide signs and maps to the public, and provide inventory data to State and local governments.
Sec. 202 (a) requires the Secretary, with public involvement, to develop, maintain, and when appropriate, revise land use plans that provide by tracts or areas for the use of the BLM lands.
Sec. 202 (c) (9) requires that land use plans for BLM lands be consistent with tribal plans and, to the maximum extent consistent with applicable Federal laws, with State and local plans.
Sec. 202 (d) provides that all public lands, regardless of classification, are subject to inclusion in land use plans, and that the Secretary may modify or terminate classifications consistent with land use plans.
Sec. 202 (f) and Sec. 309 (e) provide that Federal, State, and local governments and the public be given adequate notice and opportunity to comment on the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for the management of the public lands.
Sec. 302 (a) requires the Secretary to manage the BLM lands under the principles of multiple use and sustained yield, in accordance with, when available, land use plans developed under Sec. 202 of FLPMA, except that where a tract of BLM lands has been dedicated to specific uses according to any other provisions of law, it shall be managed in accordance with such laws.
Sec. 302 (b) recognizes the entry and development rights of mining claimants, while directing the Secretary to prevent unnecessary or undue degradation of the public lands.
2. The Clean Air Act of 1990, as amended, 42 U.S.C. 7418, requires Federal agencies to comply with all Federal, State and local requirements regarding the control and abatement of air pollution. This includes abiding by the requirements of State Implementation Plans.
3. The Clean Water Act of 1987, as amended, 33 U.S.C. 1251, establishes objectives to restore and maintain the chemical, physical, and biological integrity of the Nation's water.

4. The Federal Water Pollution Control Act of 1948, 33 U.S.C. 1323, requires the Federal land manager to comply with all Federal, State, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any non-governmental entity.
5. The Safe Drinking Water Act of 1974, 42 U.S.C. 201, is designed to make the Nation's waters "drinkable" as well as "swimmable." Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management.
6. The Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. 1531 et seq.:
 - a. Provides a means whereby the ecosystems upon which endangered and threatened species depend may be conserved and to provide a program for the conservation of such endangered and threatened species (Sec. 1531 (b), Purposes).
 - b. Requires all Federal agencies to seek to conserve endangered and threatened species and utilize applicable authorities in furtherance of the purposes of the Endangered Species Act (Sec. 1531 (c) (1), Policy).
 - c. Requires all Federal agencies to avoid jeopardizing the continued existence of any species that is listed or proposed for listing as threatened or endangered or destroying or adversely modifying its designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation).
 - d. Requires all Federal agencies to consult (or confer) in accordance with Sec. 7 of the ESA with the Secretary of the Interior, through the Fish and Wildlife Service and/or the National Marine Fisheries Service, to ensure that any Federal action (including land use plans) or activity is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the provisions of the ESA, or result in the destruction or adverse modification of designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation, and 50 CFR 402).
7. The Wild and Scenic Rivers Act of 1968, as amended, 16 U.S.C. 1271 *et seq.*, requires the Federal land management agencies to identify potential river systems and then study them for potential designation as wild, scenic, or recreational rivers.
8. The Wilderness Act, as amended of 1964, 16 U.S.C. 1131 *et seq.*, authorizes the President to make recommendations to the Congress for Federal lands to be aside for preservation as wilderness.
9. The Antiquities Act of 1906, 16 U.S.C. 431-433, protects cultural resources on Federal lands and authorizes the President to designate National Monuments of Federal lands.
10. The National Historic Preservation Act (NHPA) of 1966, as amended, 16 U.S.C. 470, expands protection of historic and archeological properties to include those of national, State, and local significance and directs Federal agencies to consider the effects of proposed actions on properties eligible for or included in the National Register of Historic Places.

11. The American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996, establishes a national policy to protect and preserve the right of American Indians to exercise traditional Indian religious beliefs or practices.
12. The Native American Graves Protection and Repatriation Act of 1990, 25 USC 3001, provides for the protection of Native American graves, and other purposes.
13. The Recreation and Public Purposes Act of 1926, as amended, 43 U.S.C. 869 *et seq.*, authorizes the Secretary of the Interior to lease or convey BLM lands for recreational and public purposes under specified conditions.
14. The Federal Coal Leasing Amendments Act of 1976, 30 U.S.C. 201 (a) (3) (A) (i), requires that coal leases be issued in conformance with a comprehensive land use plan.
15. The Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. 1201 *et seq.*, requires application unsuitability criteria prior to coal leasing and also to proposed mining operations for minerals or mineral materials other than coal.
16. The Mineral Leasing Act of 1920, as amended, 30 U.S.C. 181 *et seq.*, authorizes the development and conservation of oil and gas resources.
17. The Onshore Oil and Gas Leasing Reform Act of 1987, 30 U.S.C. 181 *et seq.*, provides:
 - e. Potential oil and gas resources be adequately addressed in planning documents;
 - f. The social, economic, and environmental consequences of exploration and development of oil and gas resources be determined; and
 - g. Any stipulations to be applied to oil and gas leases be clearly identified.
18. The General Mining Law of 1872, as amended, 30 U.S.C. 21 *et seq.*, allows the location, use and patenting of mining claims on sites on public domain lands of the United States.
19. The Mining and Mineral Policy Act of 1970, 30 U.S.C. 21a, establishes a policy of fostering development of economically stable mining and minerals industries, their orderly and economic development, and studying methods for disposal of waste and reclamation.
20. The Taylor Grazing Act of 1934, 43 U.S.C. 315, “[T]he Secretary of the Interior is authorized, in his discretion, by order to establish grazing districts or additions thereto...of vacant unappropriated and unreserved lands from any part of the public domain...which in his opinion are chiefly valuable for grazing and raising forage crops[.]....” The Act also provides for the classification of lands for particular uses.
21. The Public Rangelands Improvement Act of 1978, 43 U.S.C. 1901, provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 U.S.C. 1712.
22. The Wild, Free Roaming Horse and Burro Act of 1971, 16 U.S.C. 30, provides for management and protection of wild, free roaming horses and burros on public lands.

23. Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), 49 *Fed. Reg.* 7629 (1994), requires that each Federal agency consider the impacts of its programs on minority populations and low income populations.
 24. Executive Order 13007-1996 (Indian Sacred Sites), 61 *Fed Reg.* 26771, requires Federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions to:
 - h. Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and
 - i. Avoid adversely affecting the physical integrity of such sacred sites.
 25. Executive Order 13084-1998 (Consultation and Coordination with Indian Tribal Governments) provides, in part, that each Federal agency shall establish regular and meaningful consultation and collaboration with Indian tribal governments in development of regulatory practices on Federal matters that significantly or uniquely affect their communities.
 26. Executive Order 13112-1999 (Invasive Species) provides that no Federal agency shall authorize, fund or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk or harm will be taken in conjunction with the actions.
 27. Secretarial Order 3175-1995 (incorporated into the Departmental Manual at 512 DM 2) requires that if Department of the Interior (DOI) agency actions might impact Indian trust resources, the agency explicitly address those potential impacts in planning and decision documents, and the agency consult with the tribal government whose trust resources are potentially affected by the Federal action.
- Secretarial Order 3206-1997 (American Indian Tribal Rights, Federal –Tribal Trust Responsibilities, and the Endangered Species Act) requires DOI agencies to consult with Indian Tribes when agency actions to protect a listed species, as a result of compliance with ESA, affect or may affect of Indian lands, tribal trust resources, or the exercise of American Indian tribal rights.

APPENDIX B

PRELIMINARY PLANNING CRITERIA FOR THE RAWLINS RMP

Planning criteria are the constraints or ground rules that are developed to guide and direct the planning review for the Great Divide RMP. The planning criteria serve to:

- Ensure that the planning effort follows and incorporates legal requirements, provides for management of all resource uses in the planning area, is focused on the issues, and is accomplished efficiently;
- To identify the scope and parameters of the planning effort; and
- Inform the public of what to expect of the planning effort.

Planning criteria are based on standards prescribed by laws and regulations; guidance provided by the BLM Wyoming State Director; results of consultation and coordination with the public, other agencies and governmental entities, and Indian tribes; analysis of information pertinent to the planning area; public input; and professional judgment.

The planning criteria focus on the development of management options and alternatives, analysis of their effects, and selection of the Preferred Alternative and the Proposed RMP. Additional planning criteria may be identified as the planning process progresses.

Criteria for specific resource programs - All program specific guidance that apply, as noted in land use planning manual 1601 and handbook H-1601-1, Appendix C.

1. Criteria for Use of Mitigation Guidelines

The Wyoming BLM has developed "mitigation guidelines" for use in determining the types and levels of mitigation needed to protect important resources from actions involving surface-disturbing and other human-presence disturbance or disruptive activities. These guidelines are used in the planning/NEPA process for (1) developing management options and alternatives and analyzing their impacts; and (2) as part of the planning criteria for developing the options and alternatives and for determining mitigation requirements. The "Wyoming BLM Mitigation Guidelines for Surface-disturbing and Disruptive Activities" are detailed in Appendix C, which also contains further information on how they are used in the planning/NEPA process.

2. Criteria for Coal Screening Process

The previously conducted coal planning/screening process (including application of the coal unsuitability criteria) under 43 CFR 3461 will be revisited and conducted, as necessary, for the planning effort. The Notice of Intent to conduct a planning review and modification of the Great Divide RMP will include a call

for any available coal and other resource information for the planning area. The planning review and coal screening process will be consistent with the Federal Coal Management Program, policies, environmental integrity, national energy needs, and related demands. Conducting the environmental analysis and developing the environmental impact statement will serve as a mode for public input to the coal screening/planning process. The coal screening process will be conducted for the Great Divide RMP planning area to determine if existing RMP coal planning decisions are still appropriate in light of changes to the Federal coal regulations and changes in resource conditions since the Great Divide RMP was approved (1990). After identifying areas of coal occurrence potential and coal with any degree of development potential in the planning area, the remainder of the coal screening/planning process will be conducted on those federal coal areas with development potential to determine what federal coal is acceptable for further consideration for leasing.

3. **Criteria for Healthy Rangelands**

The Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (S&Gs) were approved by the Secretary of the Interior on August 12, 1997. They have been included in this document as appendix D.

The Secretary of the Interior approved the Wyoming BLM S&Gs to aid in achieving the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1). These four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets state standards; and, (4) habitat for special status species is protected. The standards apply to all resource uses on public lands while the guidelines apply specifically to livestock grazing practices. The S&Gs are used to aid in developing alternatives for analysis and in considering appropriate management actions necessary to implement the S&Gs.

4. **Criteria for Multiple Use Considerations**

Multiple use is defined in the Federal Land Policy Management Act (FLPMA) 1976, as “the management of public lands and their various resource values so they are utilized in the combination that will best meet the present and future needs of the America people and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output. “ BLM policy requires that BLM-administered lands be managed under this multiple-use concept. As appropriate, management objectives and actions described for each alternative addressed in the planning/NEPA process will consider all resources and resource uses in the planning area (physical, biological, and socioeconomic).

5. **Criteria for Hydrocarbon Potential**

To aid in the planning review, criteria will be developed for leasing and development of hydrocarbon-based minerals (oil and gas, and coalbed methane). Using available geologic information, reports of past production, and information from the minerals industry, areas of high, moderate, and low potential for the occurrence and development of hydrocarbons in the planning area will be identified. Estimates of reasonably foreseeable oil and gas (including coalbed methane) exploration and development activity will be developed from analysis of past activity and production. These estimates will be used to aid in the analysis of environmental consequences. Because they are general, these occurrence and development potential classifications and production estimates are appropriate for planning purposes, but they are not appropriate for, nor are they intended to predict, future specific activity or the specific locations of new discoveries.

6. **Criteria for Other Leasable Minerals**

Other leasable minerals (phosphates, geothermal, etc.) will not be addressed in this planning review. There is no known development potential in the planning area for other leasable minerals.

7. **Criteria for Salable Mineral Potential**

Information on salable mineral (sand, gravel, decorative stone, etc.) occurrence potential and records of past minerals activities will be used to estimate what types and amounts of future salable mineral development would take place in the planning area. Estimates of reasonably foreseeable mineral development will be used to aid in the analysis of environmental consequences.

8. **Criteria for Locatable Minerals Potential**

Criteria will be developed for location and development of locatable minerals such as gold, diamonds, uranium and bentonite. Areas of high, moderate, and low occurrence and development potential will be determined to facilitate analysis of the effects that the variety of other land and resource uses and management actions would have on locatable minerals development and vice versa. This will only be based on a representative analysis by inference and does not imply that there may or may not be undiscovered locatable minerals of economic value in the planning area.

9. **Criteria for Withdrawals and Classifications**

Under sections 202(d) and 204(l) of the FLPMA, any classification or withdrawal on BLM-administered public land is subject to periodic review to determine whether or not it is serving its intended purpose and is still needed. These reviews will be conducted during the planning effort and may result in determining that some classifications and withdrawals should be modified or terminated. During

the planning effort, the need for new withdrawals may also be identified. Where the need for new withdrawals is identified that overlap existing withdrawals that should be terminated, the new withdrawals will be put in place before terminating old withdrawals on the same areas. The criteria for conducting these reviews in the course of the planning effort are presented below.

For purposes of providing an adequate comparison of impacts, for the planning effort, all existing withdrawals and classifications and their segregative effects will be assumed to continue in effect in the description of the continuation of existing management direction.

- a. **Withdrawals Under Other Agency Jurisdiction.** The withdrawal review requirement of the FLPMA has not yet been completed on those federal lands withdrawn for purposes of other federal agencies (i.e., those under the jurisdiction of the Department of Defense or Bureau of Reclamation). For the purposes of this planning effort, it must be assumed that these withdrawals will remain in effect, and that the planning and management authorities for these withdrawn lands will remain with those agencies. Thus, the planning effort will not include consideration of any planning or management decisions for either the federal land surface or federal minerals within these withdrawn areas. These lands will be considered in conducting the environmental analysis for the planning effort in terms of cumulative impacts and in terms of how they may be affected by management in the planning area or vice versa.
- b. **Withdrawals and Classifications Under BLM Jurisdiction.** The review of withdrawals and classifications on any lands under BLM jurisdiction may result in a determination withdrawals or classifications are no longer serving their intended purposes and should be terminated (either all or in part). This review will include consideration of whether new withdrawals or classifications, for other purposes, are needed and should be put into place before terminating old withdrawals on the same areas.

10. **Criteria for Wild Horse Management**

There are three wild horse herd management areas (HMAs – Adobe Town, Lost Creek, and Stewart Creek) on BLM-administered public land within the planning area. These HMAs were established in accordance with the requirements of Section 3 of the Wild, Free-Roaming Horse and Burro Act, as amended. These HMAs will continue to be managed under existing policy and guidance which emphasizes multiple-use management.

Three Herd Areas (HAs) in the planning area were not established as HMAs. Significant amounts of private land and lack of landowner consent to allow wild horses to occupy private property precluded consideration of these HAs as HMAs.

This decision will be revisited to determine whether current conditions warrant retaining these three HAs in non-HMA status.

The current appropriate management levels (AMLs) for wild horses were based on an 1994 evaluation of wild horse HMAs in the planning area. The evaluation analyzed and interpreted extensive monitoring data collected over a number of years. Management actions to support the current AMLs will continue until additional monitoring data supports a need to modify the AMLs. It is assumed that any wild horses within the planning area that are above the current AMLs are “excess”, in the meaning of the Act, and are subject to removal.

Removal methods, transportation of wild horses, handling/preparation, adoption, and long-term care arrangements are beyond the scope of this analysis and will not be addressed in this planning review.

11. **Criteria for Wilderness Management**

There are five wilderness Study Areas (WSA – Adobe Town, Ferris Mountains, Prospect Mountain, Bennett Mountains, and Encampment River Canyon) on BLM-administered public lands in the planning area. These WSAs were established in accordance with the requirements of Section 603(c) of FLPMA and section 2(c) of the Wilderness Act of 1964. These WSAs will continue to be managed under the Interim Management Policy for Lands Under Wilderness Review (IMP) until Congress either designates all or portions of the WSAs as wilderness or releases the lands from further wilderness consideration. There may be instances where resource values within WSAs will require RMP management decisions or prescriptions that are more stringent than the IMP.

While there have been no other areas with wilderness characteristics identified on public lands in the planning area, such additional lands could be identified during the planning effort (per the general provisions of Section 202 of FLPMA).

12. **Criteria for Wild and Scenic Rivers**

In the course of conducting the management situation analysis (MSA) for the planning effort, BLM-administered public land along waterways in the planning area will be reviewed, under separate contract, to determine their eligibility and suitability to be considered for inclusion in the National Wild and Scenic Rivers System. In preparing and analyzing options and alternatives for the planning effort, interim management prescriptions will be developed for any public land waterway segments determined to be suitable for further consideration. However, for purposes of providing an adequate comparison of impacts for the planning effort, the description of continuation of existing management direction (no action alternative) will not include any consideration of wild and scenic rivers.

13. **Criteria for Areas of Critical Environmental Concern (ACEC)**

The relevance and importance criteria for ACEC designation, found in BLM Manual 1613, will be applied to BLM-administered public lands in the planning area to determine if any areas have the potential for ACEC designation. An ACEC designation alone does not change the allowed uses of public lands involved (FLPMA-Sec.201(a) and 43 CFR 1601.0-5a). An ACEC designation is not a substitute for a WSA or wilderness suitability recommendation (BLM manual 1613.06). Protective measures for ACECs are not applied or required simply because of the designation, rather, the nature of the values, resources, or natural hazards they contain are the basis for determining the appropriate types and levels of management needed. The only automatic requirement due to an ACEC designation is that a “plan of operations” must be submitted for any degree of mining claim development in the area (43 CFR 3809.1-4).

This planning effort will recognize valid existing rights.

Actions must comply with laws, executive orders and regulations.

Lands covered in the EIS for the planning effort include any/all lands that may affect, or be affected by, the management occurring on the BLM-administered public lands in the planning area. However, the planning decisions in the RMP will apply only to the BLM-administered public lands and federal mineral estate in the planning area. This includes decisions on the BLM-administered federal minerals that underlie non-federal lands (split estate) in the planning area. Within the planning area, there will be no RMP decisions made on non-federal land surface or mineral estate, on federal lands administered by other federal agencies, or the federal mineral estate underlying federal lands administered by other federal agencies.

A collaborative and multi-jurisdictional approach will be used, where possible, to jointly determine the desired future condition and management direction for the public lands.

To the extent possible and within legal and regulatory parameters, BLM management and planning decisions will complement the planning and management decisions of other agencies, state and local governments, and Indian tribes, with jurisdictions intermingled with and adjacent to the planning area.

Planning and management direction will be focused on the relative values of resources and not the combination of uses that will give the greatest economic return or economic output.

Where practicable and timely for the planning effort, current scientific information, research, and new technologies will be considered.

Reasonably Foreseeable Action or Activity (RFA) scenarios for all land and resource uses (including minerals) will be developed and portrayed based on historical, existing, and projected levels for all programs.

Existing endangered species recovery plans, including plans for reintroduction of endangered species and other species, will be considered. Consultation, coordination and cooperation with the Fish and Wildlife Service will be in accordance with the 2000 BLM/FWS Interagency Memorandum of Understanding regarding Section 7 Consultation. All existing biological assessments and biological opinions regarding areas within the planning area will be reviewed for adequacy and possible consolidation and update.

PLANNING CRITERIA FOR DEVELOPING ALTERNATIVES

If the Great Divide RMP is to be amended or revised, the following will be considered in one or more of the alternatives to be developed.

1. Special or other management areas and their potential management
2. Intensive Management of significant cultural, historic, and paleontological resources including Native American respected places
3. The use of prescribed fire to improve natural resources.
4. The reduction of hazardous fuels on BLM-administered lands near wildland/urban interface communities that are at high risk from wildfire.
5. Fire suppression management options.
6. Management options for the protection and enhancement of riparian and wetland areas.
7. Management options for reducing the spread of noxious weeds.
8. Management options for the protection of habitat for threatened, endangered, sensitive, and other important wildlife and plant species.
9. Management options for protection of wild and scenic river values.
10. Various types of vegetation uses, including wildlife habitat, watershed protection, livestock grazing, etc.
11. Various levels of livestock grazing.

12. Identification of lands suitable for minerals exploration and development, off-highway vehicle use, rights-of-way construction, and other activities that may result in surface disturbance.
13. Identification of rights-of-way concentration areas, exclusion areas and avoidance areas to provide for development needs and protection of resource values.
14. Opportunities for enhancing recreation.
15. Opportunities for land exchanges that could be useful in meeting goals for resource manageability and public access.
16. Providing or improving access for reasonable levels of public use and for resource development and manageability.
17. Management of recreational use and designation of Special Recreation Management Areas.
18. Visual Resource Management (VRM) classifications will be evaluated and modified, as necessary, to reflect present conditions and future needs. Areas where specific land uses need to be modified or restricted to resolve conflicts will be identified.
19. Watersheds and watershed needs will be considered in the development of management options and alternatives for all resource and land.
20. Vegetation management objectives or objectives for desired future condition will be included in all alternatives. Mitigation of surface disturbing activities will also be considered.

PLANNING CRITERIA FOR ANALYZING ENVIRONMENTAL CONSEQUENCES

The following potential effects will be addressed.

1. Effects of opening or closing BLM-administered lands to some uses or activities.
2. Effects of resource protection measures on land and resource uses and activities.
3. Effects of surface-disturbing uses and other disruptive human activities on air quality, cultural resources, recreational opportunities, watershed, and wildlife resources.
4. Effects of land tenure adjustments, livestock grazing, and OHV use.

5. Economic effects of management options on livestock grazing, minerals exploration and development, and recreation.
6. The effects of mineral development on other resources and land uses.
7. Effects of all types of land and resource uses on the diversity of plant and animal species.
8. Effects on land and resource uses from retention or termination of existing withdrawals and classifications.
9. Effects of all types of land and resource uses on the vegetation, water, soil, and air resources.

PLANNING CRITERIA FOR SELECTING THE PREFERRED ALTERNATIVE

The following considerations will guide selection of the preferred alternative.

1. Levels of land use restrictions needed to protect resources and keep lands and resources available for public use.
2. The potential for the occurrence of mineral resources.
3. Consistency with the land use plans, programs, and policies of other federal agencies, state and local governments, and Indian tribes.
4. The potential for sustaining the productivity and diversity of ecosystems while providing for human values, products, and services.
5. Social and economic values.
6. Existing law, regulations, and BLM policy.
7. Public input, welfare and safety.
8. Environmental impacts.

PLANNING CRITERIA FOR USING THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL ANALYSIS PROCEDURE TO DEVELOP LAND USE PLAN (RMP) PLANNING AND MANAGEMENT DECISIONS

1. The Management Situation Analysis (MSA) procedure and documentation consist of a detailed evaluation and description of (1) the Continuation of Existing Management Direction (or “No Action”) Alternative (this alternative will have a 20 year projection or analysis period); (2) the description of the affected or

existing environment; and (3) the description of the impact analysis of the No Action Alternative (including the input of both informal and formal public scoping conducted to that point). The results of this analysis and scoping provide (4) the basic determination of the problems, concerns, conflicts and issues associated with continuation of existing management direction in the planning area, upon which the remainder of the planning effort will be focused. The MSA procedure and documentation also includes (5) the planning criteria for conducting the planning effort; (6) a record data/information compiled and new data/information gathered or specifically needed for the planning effort; and (6) a record of resource management options, opportunities, and limitations to respond to and resolve the issues, concerns, etc. At this point in the process, a determination will be made on whether the RMP modification will be an amendment, or a complete revision. Regardless of that determination, the environmental analysis level for the Great Divide RMP modification will be an EIS (rather than an environmental assessment or EA).

2. Upon completion of the MSA, alternatives (i.e., alternatives to existing management direction, or alternatives to the No Action Alternative) will be developed for detailed impact analysis (as with the MSA, all alternatives will have a 20 year projection or analysis period). An alternative is a comprehensive and complete “alternative RMP” and is made up of resource and land use “management options” among the various programs of resource and land uses occurring in the planning area. In compliance with NEPA, the Council on Environmental Quality (CEQ) regulations, and the BLM planning regulations and guidance, alternatives must be reasonable and must be capable of implementation. Two basic alternative “themes” will be used to formulate the first two alternatives – one that emphasizes development and intensive management and de-emphasizes environmental protection (within the parameters of law and regulation), and one that emphasizes environmental protection and de-emphasizes development and intensive management (within the parameters of law and regulation). The basic objectives of these alternatives is to try to resolve the issues, concerns, problems and conflicts associated with the No Action Alternative; to provide an adequate range of alternatives to analyze in detail; and to provide a good basis for comparative impact analyses. A detailed analysis of each of these alternatives is conducted and documented. It is possible that other alternative themes could be identified as a result of these analyses. Other management options and alternatives that are “considered”, but not analyzed in detail, are also documented, along with the reasons and rationale for not conducting a detailed analysis on them.
3. Based upon the analyses of the above alternatives, the Preferred Alternative (i.e., the BLM’s preferred alternative) will then be selected and analyzed in detail. Usually, none of the above alternatives can, individually, represent the BLM’s preferred alternative and another alternative is formulated as the Preferred Alternative. The Preferred Alternative is usually made up of a combination of management options from the other alternatives that provide the best mix and

balance of multiple land and resource uses to resolve the issues with existing management in the planning area.

4. The draft EIS for the RMP will then be prepared. The descriptions of all the alternative RMPs analyzed in detail (including the Preferred Alternative) make up Chapter 2 of the EIS. The description of the affected or existing environment is Chapter 3 of the EIS, and the descriptions of the environmental consequences of the alternatives is Chapter 4 of the EIS. Chapter 1 is an introductory Chapter describing the planning issues and planning criteria, and Chapter 5 is a description of the public involvement and coordination occurring to this point in the planning process.
5. Following the public review and comment period on the draft EIS, the final EIS will be prepared. The final EIS will be a complete, stand-alone document (not an abbreviated document). The final EIS has the same basic outline and content as the draft EIS. The primary difference between the draft and final EISs is that the focus of the final EIS is on the “Proposed RMP Decisions or Proposed RMP Modification”, which is included in Chapter 2 of the final EIS. Based upon public comment, any new information and correction of errors in the draft EIS, the final EIS will present the Proposed RMP Decisions or Proposed RMP Modification (which is usually a refinement or modification of the Preferred Alternative in the draft EIS), along with the other alternatives.
6. Following a concurrent 60 day Governor’s consistency review and a 30 day protest period on the Proposed RMP and final EIS, any protests submitted will be resolved and both the Record of Decision (ROD) for the EIS and the Approved RMP Decisions, or RMP Modification, will be prepared in one document and issued to the public.

APPENDIX C

WYOMING MITIGATION GUIDELINES FOR SURFACE DISTURBING AND DISRUPTIVE ACTIVITIES

This has been updated from the original text in the 1990 RMP per statewide direction.

Introduction

The "Wyoming BLM Standard Oil and Gas Lease Stipulations" were developed in 1986. During their implementation, it was recognized that various land uses, other than those related to oil and gas exploration and development, should be subject to similar kinds of environmental protection requirements. Using the Wyoming BLM standard oil and gas lease stipulations as a basis, development of the "Wyoming BLM Standard Mitigation Measures for Surface-Disturbing Activities" began.

The term "guidelines" better describes the intent and use of these mitigation standards than the terms "stipulations" or "measures." These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the standard mitigation guidelines are used in the resource management plan/environmental impact statement (RMP/EIS) process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the standard mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the standard mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered, and (3) to help determine whether more stringent or less stringent mitigations should be considered.

Some of the seasonal restrictions in the standard oil and gas lease stipulations contain the statement, "This limitation does not apply to maintenance and operation of producing wells." This statement was included because the stipulations were developed specifically for application to oil and gas leases at the time of issuance, not for activities associated with producing wells. At lease issuance, the only action that can be generally contemplated is the possibility that exploratory drilling may occur somewhere on the lease area. Unfortunately, the provision has been interpreted by some people to mean that the seasonal restriction disappears at the operational stage (i.e., if a producing well is

attained). It must be understood that at both the oil and gas exploration stage and the operation or development stages, additional site-specific environmental analyses are conducted and any needed restrictions or mitigations identified become part of the operational or development plan. For example, wells may continue to produce, but related activity may be limited. Thus, it is possible for such seasonal restrictions to continue in effect and be applicable to maintenance and operation of producing wells, if supported by the environmental analyses.

The RMP/EIS does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the standard guidelines are used in the RMP/EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP/EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

Purpose

The purposes of the "Standard Mitigation Guidelines" are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP/EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the standard mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

Standard Mitigation Guidelines

1. Surface Disturbance Mitigation Guideline: Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this

limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- a. Slopes in excess of 25 percent.
- b. Within important scenic areas (Class I and II Visual Resource Management Areas).
- c. Within 500 feet of surface water and/or riparian areas.
- d. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.
- e. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the five (1a through 1e) conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and seasons must be delineated at the field level.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

2. Wildlife Mitigation Guideline

a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30. Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects. Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30. Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects. Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

c. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat. Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

d. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1, to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous, Swainson's and red-tailed hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas. Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description). Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects. Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (Select or identify category and specific resource value):

- a. Recreation areas.
- b. Special natural history or paleontological features.
- c. Special management areas.
- d. Sections of major rivers.
- e. Prior existing rights-of-way.
- f. Occupied dwellings.
- g. Other (specify).

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of (resource value).

Example Resource Categories (Select or identify category and specific resource value):

- a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).
- b. Major reservoirs/dams.
- c. Special management area (e.g., areas of critical environmental concern, known threatened or endangered species habitat, wild and scenic rivers).
- d. WSAs and the Continental Divide National Scenic Trail
- e. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

APPENDIX D
(APPENDIX II IN 1990 RMP)

COAL

Introduction

This appendix summarizes the final federal coal management decisions for the planning area. The process used to arrive at these decisions is briefly explained. This summary is intended to help the public to understand the federal coal management program as it applies to the planning area and to show the requirements that must be met under 43 CFR 3400. These planning decisions will guide the development of the federal coal resource in this area during the remainder of the 1990s and afterward.

[NOTE: All maps referred to in this appendix can be found on BLM Internet site at: <http://web.ead.anl.gov/rmpweb>]

To implement competitive coal leasing under regulations contained in 43 CFR 3420, on November 9, 1979, the BLM established a number of federal coal production regions, including the Green River-Hams Fork Region. That coal region includes the following counties: in Wyoming, Albany, Carbon, Lincoln, Sublette, Sweetwater, and Uinta; in Colorado, Grand, Jackson, Moffatt, Rio Blanco, and Routt. It was estimated that the coal production region contained sufficient federal coal deposits to justify offering coal leases through the competitive leasing process set out in 43 CFR 3420.3 through 3420.6. Much of the planning area is within this coal region.

During its October 9, 1987, meeting in Denver, the Green River-Hams Fork Regional Coal Team discussed the proposal to operate in a lease-by-application mode. As a result of that meeting, the regional coal team decided to offer an additional opportunity for public comment, with the comments received to be considered and responded to before the director of the BLM makes a final decision on the subject.

A decision document on lease-by-application was published in the Federal Register of December 28, 1987, along with a request for public comments. Two comments were received, both of which supported leasing-by-application in the Green River-Hams Fork Region. Therefore, since there is limited industry interest in additional tracts of federal coal in this region, coal leasing in the counties listed above will be handled on a lease-by-application basis under 43 CFR 3425. (The governors of Colorado and Wyoming concur in the recommendation.) The regional coal team will continue to be involved in the lease-by-application process as described in section 6c of its charter.

It is expected that this action will result in substantial savings in administrative costs to the federal government and the states of Colorado and Wyoming while a responsive leasing process is retained for the coal industry.

Whether coal is leased through leasing-by-application, activity planning, or coal lease exchanges, decisions to lease must be made within the area identified in this document as available for further consideration for coal leasing.

The objectives in managing the federal coal resource in this planning area are (a) to provide for both short- and long-range development of federal coal in an orderly and timely manner, consistent with the federal coal management program, policies, environmental integrity, national energy needs, and related demands; (b) to identify federal coal that is acceptable for further consideration for leasing; and (c) to identify appropriate mitigation for sensitive areas.

Requirements and Mitigation

Introduction

Lessees will be required to develop their federal leases in compliance with applicable federal, state, and local laws and regulations. These would be considered in-place constraints on a lessee's activities.

All areas identified in this document as acceptable for further consideration for coal leasing are subject to the following mitigation requirements:

Cultural Resources

- a. Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized officer of BLM on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease-related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the Authorized Officer of the surface managing agency (BLM if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Regional Director of the Office of Surface Mining (OSM) and the Authorized Officer of BLM (or only to the authorized officer of BLM if activities are associated with coal exploration outside an approved mining permit area), to protect cultural resources on the leased land. The lessee shall undertake measures, in accordance with instructions from the Regional Director or Authorized Officer to protect cultural resources on the leased land. The lessee shall not commence the surface-disturbing activities until permission to proceed is given by the Regional Director or Authorized Officer.

- b. The lessee shall protect all known cultural resource properties within the lease area from lease related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation plan or exploration plan.
- c. The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.
- d. If cultural resources are discovered during operations under a lease, the lessee shall immediately bring them to the attention of the Regional Director or authorized officer, or the authorized officer of the surface managing agency if the Regional Director is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the Regional Director or authorized officer. Within two (2) working days of notification, the Regional Director or authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the Authorized Officer of BLM or of the surface managing agency (if different).
- e. All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

Paleontological Resources

If paleontological resources, either large and conspicuous and/or of significant value are discovered during construction, the find will be reported to the authorized officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM-approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such discoverer will not be resumed until written authorization to proceed is issued by the authorized officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operations.

Black-footed Ferret Habitat

The lessee will be required to monitor and inventory the lease area for establishment of potential black-footed ferret habitat (i.e. prairie dog towns) and, if any such habitat is found, to conduct ferret inventories, all in accordance with the guidelines below. In the event that ferret occurrence is identified, the lessee shall notify the BLM and USFWS and

will be required to adhere to any modifications in the mining operation provided by the USFWS and the BLM to protect the endangered species.

The following Black-Footed Ferret Inventory Guidelines will be followed. Proposed developments such as coal lease lands, power plant sites, well fields, dam sites, and facilities relating to these developments should be surveyed for prairie dogs before the project is approved. If prairie dogs are found on the proposed site, colonies should be mapped on topographic maps and each colony surveyed using recommended USFWS Black-Footed Ferret Survey Procedures. Ferret searches should be scheduled as close to actual construction as possible and not more than 1 year prior to disturbance to minimize the possibility of missing ferrets that might move onto the area during the period between completion of surveys and the start of construction. Where project disturbance takes place over a long period of time, such as on a coal site, additional surveys or baseline studies for black-footed ferrets are recommended. Results of these surveys will be submitted to the BLM and USFWS for review and clearance. In addition, any burrowing owl nests will be noted and reported to BLM and USFWS.

The Coal Planning Process

Introduction

The federal coal management program established four major steps to be used in the identification of federal coal areas that are acceptable for coal development: (1) identification of coal development potential, including a call for coal resource information (43 CFR 3420.1-2); (2) application of the coal unsuitability criteria; (3) multiple-use conflict evaluation; and (4) surface owner consultation. Collectively, these steps, which are called the "coal screening process" (43 CFR 3420.1-4), are applied in sequence to the review area.

The four major steps and how they were applied to the review area are described in the following sections.

Step 1: Identification of Development Potential Coal

In step 1, areas of coal with potential for development are identified with the use of government drill hole data, data collected through exploration licenses, geological and economic data submitted by coal companies, and interpretations of available geological data from various other sources. Expressions of interest from the coal industry also are used to guide this identification process. Expressions of interest were received for the Atlantic Rim, Indian Springs, North Indian Springs, Wild Horse Draw, and Red Rim areas.

When this screening step is applied, areas without development potential coal and areas with no known interest in development are excluded from further consideration. The

areas found to have development potential are closer to existing transportation and/or contain better quality coal than the areas excluded from further consideration.

Table COAL-AP-1 (updated July 1998) presents coal quality and quantity data on all areas in the planning area that were determined to have coal with development potential. These areas are shown on map 19.

Table Coal-AP-1
Coal Resources in the Planning Area

Coal Area	Federal Acreage	Federal Tonnage (in place)	Average Proximate Analysis					
			BTU/lb ¹	Moisture	Volatiles	Carbon	Ash	Sulfur
Red Rim	9,720	40.6 x 10 ⁶	8,560	22.21	Not available	Not available	9.30	0.45
Wild Horse Draw	1,280	1.7 x 10 ⁶	10,818	12.07	Not available	Not available	7.57	0.67
China Butte	6,240	73.9 x 10 ⁶	8,800	25.57	Not available	Not available	7.35	0.56
Indian Springs	2,500	25.0 x 10 ⁶	9,626	14.75	34.00	42.52	8.24	0.33
North Indian Springs	3,840	25.0 x 10 ⁶	9,015	17.14	37.42	37.75	7.69	0.46
Atlantic Rim	3,650	79.1 x 10 ⁶	10,277	13.41	34.47	43.32	8.79	1.02
NE Cow Creek	7,325	201.8 x 10 ⁶	10,656	15.07	33.40	46.70	5.00	0.94
Hanna Basin	30,040	191.0 x 10 ⁶	10,140-10,420	12.58-12.76	34.30-36.68	41.82-45.19	7.93-8.75	0.46-1.00

The Atlantic Rim, China Butte, and Red Rim areas have potential for surface mining only (see maps 28, 29, and 30). The Indian Springs and North Indian Springs areas have potential only for in situ development of coal resources (see maps 31 and 32). There is potential for both surface and subsurface mining in the Hanna Basin area. The Hanna Basin area contains coal with development potential for surface mining (86 million tons) and subsurface mining (105 million tons). There is potential for both surface and subsurface mining in the Carbon Basin area (see map 33). The Carbon Basin area contains coal with development potential for surface mining (43 million tons) and subsurface mining (270 million tons). Coal in the Wild horse Draw and Northwest Cow Creek has been determined to have no potential for development.

The remaining three screening steps are applied to the coal areas identified in step 1. They are applied in sequence and only to the lands identified as acceptable for coal development in each preceding step.

Step 2: Application of Coal Unsuitability Criteria

Introduction

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to the areas identified in step 1.

These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, and other important features. The purposes of this step are (a) to identify areas with key features or environmental sensitivity that would make them unsuitable for surface coal mining or for subsurface coal mining where there would be surface operations and impacts associated with subsurface coal mining, and (b) to identify any appropriate mitigative measures resulting from the application of the unsuitability criteria and exceptions. The results of the application of the unsuitability criteria to each coal area are described in the following sections. After an expression of interest is filed and prior to tract delineation, the BLM will reinventory a proposed tract area and adjacent land to refine the unsuitability application. If the inventory reveals the presence of species or habitats covered criteria 9 to 15, the BLM will coordinate with the USFWS and WGFD to determine if any federal coal lands within the proposed tract area should be declared unsuitable.

Red Rim

Introduction

No unsuitable areas were identified for the Red Rim area under coal unsuitability criteria 1, 3 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

In the Red Rim area, most of the rights-of-way crossing the coal areas can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of mining and reclamation plans.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the Red Rim area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see map 30). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM after concurrence of USFWS and consultation with WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the Red Rim area were determined to be unsuitable under criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions:

Surface disturbance and occupancy restrictions may be required to protect ferruginous hawk nesting areas within raptor nest concentration areas. Therefore, the lessee shall submit to the BLM, the USFWS, the Office of Surface Mining Reclamation and Enforcement (OSMRE), and the WGFD a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement of present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, OSMRE, WGFD, and USFWS and may be submitted before or concurrently with the filing of the mine permit application package. The BLM, OSMRE, WGFD, and USFWS will be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan.

The final habitat recovery and replacement plan must provide the locations, current status and reproductive history (two years minimum) of each nest on or within 2 miles of the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

The plan must include, but not be limited to, consideration of the following points:

- Nest site protection during the nesting season.

- Enhancement and protection of adjacent nesting habitat that will not be affected by mining disturbance (for example, construction of rock structures or pillars or actions intended to increase habitat diversity).

- Relocation of unoccupied nests to enhance other suitable habitat before surface disturbance begins.

- Restoration of topographic features and vegetative composition to restore nesting habitat and prey diversity affected by mining.

- Facilitation of raptor nest protection with private landowners and other public entities on lands adjacent to the lease area.

The plan must include a timetable for implementation of the habitat recovery or replacement plan in relation to the overall mine plan. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

On September 27, 1982, the National Wildlife Federation and the Wyoming Wildlife Federation filed a petition with the OSMRE to designate approximately 9,000 acres as unsuitable. On May 19, 1986, the OSMRE published its decision in the Federal Register. In part, the notice read as follows:

...Exercising this discretion, I decline to designate all or any part of the Red Rim petition area as unsuitable for surface coal mining operations, but hereby require that the approval of any Federal mining plan for the petition area include a condition that restricts from development the pronghorn winter range located within the south portion of the petition area until reclamation of pronghorn winter habitat in the north portion of the petition area has been demonstrated to be successful...

Reclamation in the north portion of the petition area shall be demonstrated to be successful when the Department of the Interior finds in writing that the operator/lessee has (1) demonstrated its capability to restore the carrying capacity of the critical winter range, (2) met the requirements of SMCRA, the applicable regulatory program, and the Bureau of Land Management's (BLM's) land-use planning decisions for the petition area, and (3) demonstrated that postmining vegetation would provide for pronghorn forage production equal to or greater than premining conditions. The postmining vegetation (composition and diversity [structural and species-specific]) must approximate premining conditions and be self-renewing when subjected to foraging use. The north portion of the petition area consists of sections 24, 26, and 34, T. 21 N., R. 89 W.; sections 4, 6, 8, and 18, T. 20 N., R. 99 W.; and sections 12, 14, 22, and 24, T. 20 N., R. 90 W. The south portion of the petition area consists of sections 26, 28, 32, and 34, T. 20 N., R. 90 W.; sections 4, 6, 8, 18, and 30, T. 19 N., R. 90 W.; and sections 24 and 26, T. 19 N., R. 91 W.

The decision made by OSMRE is consistent with this approved RMP.

Criterion 16-Floodplains

It was determined that the floodplain area of Separation Creek in the Red Rim area can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the Red Rim area were found unsuitable under criterion 16.

China Butte

Introduction

No unsuitable areas were identified in the China Butte area under coal unsuitability criteria 1 through 8, 10, 12, or 17 through 20.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the China Butte area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see map 20). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM upon concurrence of the USFWS and consultation with the WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the China Butte area were determined to be unsuitable under Criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions:

Surface disturbance and occupancy restrictions may be required to protect ferruginous hawk nesting areas within raptor nest concentration areas. Therefore, the lessee must submit to the BLM, the USFWS, the OSMRE, and the WGFD a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement from present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, the OSMRE, the WGFD, and the USFWS. It may be submitted before or concurrently with the filing of the mine permit application package. The BLM, the OSMRE, the WGFD, and the USFWS will be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan.

The final habitat recovery and replacement plan must provide the locations, current status, and reproductive history (two years minimum) of each nest on or within 2 miles of the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

The plan must include, but not be limited to, consideration of the following points:

Nest site protection during the nesting season.

Enhancement and protection of adjacent nesting habitat that will not be affected by mining disturbance (for example, construction of rock structures or pillars or actions intended to increase habitat diversity).

Relocation of unoccupied nests to enhance other suitable habitat before surface disturbance begins.

Restoration of topographic features and vegetative composition to restore nesting habitat and prey diversity affected by mining.

Facilitation of raptor nest protection with private landowners and other public entities on lands adjacent to the lease area.

The plan must include a timetable for implementation of the habitat recovery or replacement plan in relation to the overall mine plan. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease areas during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in the China Butte area were determined to be unsuitable under criterion 15. The primary habitat considerations in the China Butte coal area are crucial winter range for antelope and deer and sage grouse leks.

If all or a significant portion of the crucial winter range for one or more of the big game species involved were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herds. However, in considering the exceptions to the criterion, the BLM determined that there will not be significant long-term impacts on the species being protected under certain stipulated methods of mining (such as habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between areas disturbed by mining and undisturbed areas.

Further, mitigative measures will be combined with appropriate mining methods to temper the impacts of mining in crucial winter range for big game. Sufficient forage will be provided to maintain WGFD target populations for wintering antelope and deer in the area. Therefore, these areas were determined to be acceptable for coal development with certain stipulated methods of mining and mitigation requirements under a concept of long-range leasing and development.

It was determined that grouse habitat areas are acceptable for coal development with stipulations and mitigation requirements for habitat improvement, development, and reclamation.

The China Butte coal area is acceptable for further consideration for leasing subject to the following conditions:

The lessee shall not disturb the area within a mile of the center of sage grouse strutting/nesting complexes except on areas that are to be mined. Any proposals for surface facilities or activities within a 2-mile radius of the center of sage grouse strutting/nesting complexes will be subject to seasonal occupancy restrictions as determined to be feasible by the authorized officer of the BLM. This measure may partially mitigate losses of sage grouse.

The lease holder shall attempt to relocate sage grouse strutting/nesting complexes that would be destroyed by the proposed action. Relocation efforts are to be coordinated with the BLM and the WGFD. This measure may partially mitigate a reduction in the sage grouse population of the area. (See the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements.)

Criterion 16-Floodplains

It was determined that the floodplain area of Fillmore Creek can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, control of sediment yields and prohibition of spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the China Butte area were found unsuitable under criterion 16.

Indian Springs and North Indian Springs

Introduction

No unsuitable areas were identified in the Indian Springs and North Indian Springs areas under coal unsuitability criteria 1, 3 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Indian Springs and North Indian Springs can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of

mining and reclamation plans.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in Indian Springs and North Indian Springs were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see maps 31 and 32). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictions on location, type or design of facilities, and season of occupancy, and they may be allowed only with prior written permission of the authorized officer of the BLM after concurrence of USFWS and consultation with WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the Indian Springs and North Indian Springs areas were determined to be unsuitable under criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions:

Surface disturbance and occupancy on about 6,000 acres will be limited to very small-scale and seasonal uses because active ferruginous hawk nests are present. This area includes all of the Indian Springs area and all of the North Indian Springs area except T. 22 N., R. 89 W., section 8, W1/2E1/2, W1/2, and section 28, SW1/4. Small surface disturbances such as pipelines, restricted use roads, and raptor-safe power lines may be allowed in the area so long as they are consistent with all current planning and management decisions and mitigation, and provided that no human

activity or surface disturbance occurs during the nesting season (March 15 through July 31) and that the nest substrate (cliff, rimrock, tree, or other substrate) is not modified to disturb nesting ferruginous hawks.

Larger disturbances like upgrading of existing roads or construction of new roads, buildings, or railroad facilities within nest buffer zones would not be permitted.

A lease would be subject to the following mitigation:

- a. Any federal coal recovered from the Indian Springs Tract will be recovered by in situ coal development methods only.
- b. The lessee must submit to the BLM, the USFWS, the OSMRE, and the state of Wyoming (WGFD and DEQ) a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement from present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS. It may be submitted before or concurrently with the filing of the mine permit application package. However, because serious impacts can result from an inadequate plan, the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS would be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan. Close coordination among the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS during development of the plan will minimize the time needed for review and concurrence.
- c. The final habitat recovery and replacement plan must provide the locations, current status, and reproductive history (two years minimum) of each nest on or within 2 miles of the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

Where rock features are disturbed, reclamation shall ensure replacement of the habitat in kind.

- d. For the protection of nesting ferruginous hawks and their associated buffer zones, no surface operations will be allowed in such areas. If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (March 15 through July 31). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM upon concurrence of the USFWS and the WGFD.

Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in Indian Springs or North Indian Springs have been determined to be unsuitable for in situ coal development methods under criterion 15. However, surface disturbances and occupancy on approximately 3,000 acres of pronghorn crucial winter range will be limited to very small-scale and seasonal uses (see maps 31 and 32 and the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements).

Criterion 16-Floodplains

It was determined that in situ coal development of Indian Springs and North Indian Springs could be undertaken without substantial threat of loss of life or property. Therefore, no areas were found unsuitable under Criterion 16 (floodplains).

Atlantic Rim**Introduction**

No unsuitable areas were identified in the Atlantic Rim area under coal unsuitability criteria 1 through 8, 10, 12, 16 through 18, or 20.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the Atlantic Rim area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11, 13, and 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat

No areas were determined to be unsuitable under criterion 11, 13, or 14. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles, prairie falcons, and ferruginous hawks and the buffer zones associated with the nests of these species, no surface coal mining operations will be allowed in such areas (see map 28). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or small scale surface facilities, no surface-disturbing activities will be permitted in nesting areas or buffer zones during breeding and nesting seasons (eagles,

February 15 through July 15; other raptors, March 15 through July 15). Such exceptions maybe allowed only with prior written permission of the authorized officer of the BLM after concurrence of the USFWS and consultation with the WGFD. In addition, such exceptions will be subject to restrictions on locations, type or design of facilities, and season of occupancy.

Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in the Atlantic Rim area were determined to be unsuitable under criterion 15. The primary habitat consideration in the coal area is crucial winter and yearlong range for elk. The elk rely on a total yearlong range of 784,000 acres, of which about 327,000 acres is winter range and about 131,000 acres (17% of the total range) is crucial habitat, as defined under this criterion. Approximately 3,566 federal acres of this crucial habitat lie within this coal area.

The Atlantic Rim area is acceptable for further consideration for leasing subject to the following conditions:

The area will be subject to mitigation and reclamation measures for the protection of wintering and yearlong resident elk. Any proposals of the lessee to conduct mining operations or construct mining-related surface facilities within the Atlantic Rim coal area will be subject to stipulations for specific placement, design, and type of facilities; management of elk forage; and restrictions on the level of mining and human activity. These stipulations and restrictions will be developed in consultation with the WGFD and in conference with the USFWS, the Wyoming Wildlife Federation, and the National Wildlife Federation. The stipulations and restrictions will address the following situations:

- a. Elk need to get to the north end of the Atlantic Rim during severe winters. Mining activity will be confined to west-facing slopes, and no activity will be permitted east of the line indicated on map 28. This will keep in people and mining activity out of sight of elk moving to the north via the east ridge. Impacts on resident elk will be minimized throughout the year.
- b. Aspen patches are the primary thermal and hiding cover for resident elk. These patches are primarily in and along the major drainages of the Atlantic Rim area. So that impacts on the elk herd can be minimized and the hydrologic integrity of the drainages in which aspen patches occur can be maintained, aspen patches in the major drainages will be protected from disturbance by mining or related support facilities (see map 28).
- c. Routes for access to Atlantic Rim and for transportation of coal from the area will be restricted to those found acceptable through consultation with the WGFD and other interested parties. This will minimize effects on wildlife while allowing consideration of the coal market and any foreseeable coal development in the area. Given present

knowledge, the Twenty-Mile Road from Rawlins to the west side of the Atlantic Rim coal area appears to be the least environmentally sensitive route.

- d. Considerable amounts of winter forage would be unavailable to elk because of mine disturbance and activity. Sufficient forage would be provided to maintain WGFD target populations for wintering elk on the Atlantic Rim portion of the Baggs Elk Crucial Winter Range. The degree of overlap of foraging areas, and thus the dietary overlap between elk and cattle, will be determined, and adjustments in livestock management will be made if necessary. Other mechanisms for replacement of forage, such as fertilization or vegetation manipulation, also will be considered. Artificial feeding will not be considered for forage replacement. The best mechanism or combination of mechanisms will be used to reduce impacts to the elk population.
- e. Since the potential pit sites are part of the crucial elk winter range, human activity should be restricted to the mine site as much as possible. A threshold level of mining activity will be identified beyond which the elk population would be displaced from the winter range. Among other items, this threshold level of activity may address the number of separate pits operated simultaneously, the total amount of acreage disturbed at any given time, and the sequence of pit operations.

Application of this unsuitability criterion was done in consultation and coordination with other governmental agencies and public groups, as discussed in chapter 5 of this document.

Criterion 19-Alluvial Valley Floors

When the coal unsuitability review for the project area was conducted, possible alluvial valley floor areas were identified in two drainages that are in or near the project area- Separation Creek (in Jep Canyon) and Muddy Creek.

No areas were determined to be unsuitable under criterion 19. The area is acceptable for further consideration for leasing subject to the following conditions:

In identified possible alluvial valley floor areas or in other areas near them where the proposed coal mining could interrupt or intercept water flow to farming areas along the drainages, mining will be permitted only with mitigative measures for alluvial valley floor protection that are made a part of an approved mine plan. The state of Wyoming usually identifies alluvial valley floor areas and mitigative measures (if possible) during the mining plan approval and mine permitting stage.

Hanna Basin

Introduction

Coal unsuitability criteria were applied to the unleased federal coal with development potential in the Hanna Basin. No unsuitable areas were identified under coal unsuitability criteria 1, 4 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Hanna Basin can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary, along with appropriate stipulations and consistency with current planning and management decisions. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of mining and reclamation plans.

Criterion 3-Public Roads, Cemeteries, Buildings, and Occupied Dwellings

Split estate coal lands in T. 22 N., R. 81 W., section 18, W1/2NE1/4NW1/4, were determined to be unsuitable under criterion 3 because of an occupied dwelling on the parcel. Approximately 20 acres containing 400,000 tons of coal are unsuitable.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in Hanna Basin were determined to be unsuitable under criterion 9. Some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets inhabit the areas. The necessary searches and consultation with the USFWS will be conducted during coal activity planning.

Some survey of bald eagle wintering areas and areas used during migration has been conducted. The WGFD has identified a bald eagle wintering area along the Medicine Bow River adjacent to the Hanna Basin area, but additional fieldwork is required to document the size of the area and its importance. Data from BLM surveys during 1978 and 1979 indicate that eagles made little use of this area. A possible additional area has been identified along the North Platte River. No bald eagle nests have been identified.

No recent sightings of peregrine falcons have been documented for this area. Some limited potential for nesting peregrine falcons exists along Seminole Reservoir, Medicine Bow River, and possibly Hanna Draw because of the presence of perennial streams and associated nesting sites.

Criteria 11, 13, 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat

After filing of an expression of interest and before tract delineation, the BLM will reinventory any proposed tract and adjacent land to refine the application of criteria 11, 13, and 14. If the inventory should reveal the presence of species or habitats involving these criteria, the BLM would coordinate with the USFWS and the WGFD to determine if any federal coal lands within the proposed tract area should be declared unsuitable.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in Hanna Basin were determined to be unsuitable under criterion 15. The primary habitat considerations in the Hanna Basin coal area are sage grouse leks and crucial winter range for antelope and deer.

If all or a significant portion of the crucial winter range for one or more big game species were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herds. However, in considering the exceptions to the criterion, the BLM determined that there will not be significant long-term impacts on the species being protected under certain stipulated methods of mining (such as habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between areas disturbed by mining and undisturbed areas.

Further, mitigative measures will be combined with appropriate mining methods to temper the impacts of mining in crucial winter range for big game. Therefore, these areas were determined to be acceptable for coal development with certain stipulated methods of mining and mitigation requirements under a concept of long-range leasing and development.

It was determined that grouse habitat areas are acceptable for coal development with stipulations and mitigation requirements for habitat improvement, development, and reclamation.

The Hanna Basin Coal area is acceptable for further consideration for leasing subject to the following conditions:

The lessee shall not disturb the area within a mile of the center of sage grouse strutting/nesting complexes except on areas that are to be mined. Any proposals for surface facilities or activities within a 2-mile radius of the center of sage grouse strutting/nesting complexes will be subject to seasonal occupancy restrictions as determined to be feasible by the authorized officer of the BLM. This measure may partially mitigate losses of sage grouse.

The lease holder shall attempt to relocate sage grouse strutting/nesting complexes that would be destroyed by the proposed action. Relocation efforts are to be coordinated with the BLM and the WGFD. This measure may partially mitigate a reduction in the sage grouse population. (See the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements.)

Criterion 16-Floodplains

It was determined that most identified floodplain areas in Hanna Basin can be mined without substantial threat of loss to people or property or to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include control of sediment yields and prohibition of spoil dumping in channels, lining channel bottoms, revegetation, and general mined land reclamation.

The floodplain of the Medicine Bow River in T. 23 N., R. 81 W., section 6, was found unsuitable for mining under criterion 16. This involves approximately 10 acres containing 15,000 tons of federal coal. All other floodplain areas in the Hanna Basin were determined to be acceptable with mitigation, as discussed above.

Step 3: Multiple-Use Conflict Evaluation

Introduction

As required by 43 CFR 3420.1-4(e)(3), multiple land-use decisions were made on areas found suitable upon application of the unsuitability criteria. Step 3, evaluation of multiple-use conflicts, provides for the protection of locally, regionally, or nationally important or unique resource values and land uses not included in the unsuitability criteria.

Groundwater and Surface Water Resources

Potential impacts on groundwater and surface water resources are of concern in the Indian Springs, North Indian Springs, and Atlantic Rim areas. Mitigation will be applied in those areas to reduce the effects due to possible aquifer removal, interruption of groundwater flow, change in groundwater flow from replaced overburden, water quality changes from spoil material leaching and mixing between aquifers, and subsidence and/or fracturing of overlying rocks.

No areas are unacceptable; however, the following mitigation requirements will be applied:

The lessee shall prepare and submit to the BLM, concurrently with the filing of a permit application package, a hydrologic mitigation study. The study must include a factual statement of the following:

- a. Identification of all affected surface water, water table (unconfined), and artesian (confined) waters, including the location and direction of movement of all groundwater.
- b. Appropriate characteristics of the waters, which might include yield or flow; conductance; pH; temperature; alkalinity; total dissolved solids; dissolved amounts of such elements as sulfates, chlorides, barium, cadmium, copper, iron, lead, radioactive materials, turbidity; and total dissolved oxygen.

- c. Identification of development activities that would affect the above waters, and the probable impact on such waters from each activity.
- d. A discussion of the interrelationships between surface water and groundwater in the project area and the likely effects on this relationship from development of the Federal coal.
- e. Identification of proposed mitigative measures to reduce the impacts identified in (c) above.
- f. A plan for monitoring surface water and groundwater conditions in the project area and downstream from the project. The water quality standards of the Wyoming Department of Environmental Quality and the U.S. Public Health Service shall be used where applicable.

In addition, the following mitigation requirement will be applied in the Indian Springs and North Indian Springs areas.

In accordance with state law and regulation, the permit application package submittal shall include a detailed description of the effects of possible mined land subsidence and faulting. This must include the proposed measures to be taken to prevent or minimize the effects of subsidence and faulting and procedures that will be taken in terms of backfilling, grading, contouring, etc., in the event that any subsidence or faulting occurs.

Wildlife Habitat

Loss of wildlife habitat for varying lengths of time on surface-mined areas, roads, railroads, and facilities is unavoidable. In addition to the loss of habitat, some areas will become unusable by animals that are intolerant of human activity. No additional areas have been determined to be unacceptable; however, the following mitigation requirements will be applied in the Indian Springs, North Indian Springs, Atlantic Rim, Red Rim, China Butte, and Hanna Basin areas:

- A. Recovery of wildlife habitat on the project area will be required. The lessee will be required to mitigate habitat loss caused by surface coal mining operations in the project area. Where crucial habitat is disturbed, reclamation will ensure replacement of that habitat in kind. Mitigation methods may require the lessee to employ techniques for wildlife forage manipulation or intensive wildlife habitat management.
- B. Habitat recovery may not be completely feasible in the project area; therefore, recovery or replacement may be accomplished on lands outside the project area in combination with recovery and replacement methods on suitable lands within the project area. Such habitat recovery provisions must be acceptable to the BLM, the WGFD, and the USFWS. Lands outside the project area for such habitat recovery may be made available through the surface management agency, the state, or the lessee. In regard to the above the lessee will be required to develop a habitat recovery and replacement plan designed to protect and/or enhance wildlife habitat. This plan shall be prepared before mining plan approval, in consultation with and subject to approval by the BLM, the USFWS, and OSMRE, and

the state of Wyoming. The habitat recovery and replacement plan shall include, but will not be limited to, the following provisions:

1. A detailed description of the methods selected by the lessee to mitigate habitat loss, together with a comparative analysis of alternate methods that were considered and rejected by the lessee, and the rationale for the decision to select the proposed methods. The replacement may include, but is not limited to, the following techniques:
 - a. Increasing the quantity and quality of forage available to wildlife
 - b. The acquisition of wildlife crucial habitats
 - c. Manipulation of wildlife habitat for selected wildlife species
 - d. Recovery, replacement, or protection of important wildlife habitat by selected methods such as modifying or eliminating fencing. Construction of new fences will be kept to a minimum on winter ranges and within migration routes. Fencing will be coordinated with the WGFD to ensure protection of these resources.
 - e. Wildlife watering developments.
2. A timetable giving the periods of time that will be required to accomplish the habitat recovery or replacement plan and showing how this timetable relates to the overall mining plan.
3. An evaluation of the final plan by the state of Wyoming. The state will comment on the methods selected and the techniques to be employed by the lessee and may recommend alternate recovery or replacement methods. If the state has recommended alternate methods, the lessee shall consider the state's recommendations and, if the lessee rejects the state's recommendations, the lessee shall indicate its reasons as required by provision B, above. If no state comment is included in the plan, the lessee shall verify its consultation with the state and the plan may be considered without state comment.
4. A habitat analysis of the lease area (including a 2-mile buffer around the lease area) and those areas considered for off-site mitigation. The analysis shall identify the following features:
 - a. Distribution of important wildlife species (game, nongame sensitive species, species of high federal interest, and threatened or endangered species)
 - b. Distribution of important standard habitat types

Fisheries, Water Quality, and Recreation

Proposed coal development could cause significant adverse impacts at the Seminole Reservoir, which is managed by the Bureau of Reclamation. Adverse impacts that could result from coal development are (a) interruption or interception of groundwater and surface water systems; (b) water transfer between the reservoir and mining pits, which could degrade water quality and impair fisheries habitat, recreational activities, and downstream water uses; and (c) impairment of scenic quality through visual intrusion of

the mining operation and related recreational activities. Further analysis is available in the "Amendment to the Hanna Basin Management Framework Plan and Draft Environmental Assessment" (USDI, BLM and USDI, GS 1984).

For the protection of the water values of Seminole Reservoir, the BLM and the Bureau of Reclamation have jointly determined that no surface occupancy will be allowed within a 200-foot buffer zone between any surface coal mining operation and the high-water design elevation of 6,363.7 feet. Approximately 3,420 acres containing 22.4 million tons of coal are within this buffer zone.

Producing Oil and Gas Areas

As of this date, a draft policy addressing development conflicts between coal/oil and gas is being considered for adoption. The final policy will guide actions involving coal/oil and gas conflicts.

Lands Near Populated Areas

Federal coal lands in T. 22 N., R. 81 W., section 16, NW1/4NW1/4, and section 18, S1/2NW1/4, are near the towns of Hanna and Elmo. The impacts of coal development on the residents of Hanna and Elmo are a concern. In addition, there are structures on federal land in section 18 related to Hanna's water system.

These lands have been determined to be acceptable for further consideration subject to mitigation. Specific mitigative measures to protect the quality of life and provide for improvements on the land would have to be acceptable to the residents of Hanna and Elmo. These measures should be worked out in coordination with local residents as soon as the BLM receives any possible lease proposal.

Step 4: Surface Owner Consultation

Section 714 of the Surface Mining Control and Reclamation Act (SMCRA) requires that the BLM consult with certain "qualified" owners of "split estate" lands (privately owned surface over federally owned coal) when surface mining of the federal coal is being considered.

In step 4 of the goal planning process, surface owners who may be "qualified" under section 714 of SMCRA are asked to state their opinion for or against surface coal mining on their land. Areas where a significant number of qualified owners oppose surface mining of federal coal are eliminated from consideration for this mining method.

This step does not apply to areas where only subsurface mining methods are concerned. It involves only split estate lands within competitive federal coal areas that remain acceptable for development by surface mining methods after the multiple-use conflict evaluation has been conducted.

The Red Rim, Indian Springs, North Indian Springs, and China Butte areas do not contain split estate lands as defined in this section.

Split estate lands in the Atlantic Rim coal area are as follows:

- T. 18 N., R. 90 W., section 28, W1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4
- T. 19 N., R. 89 W., section 31, all.

Split estate lands in the Hanna Basin coal area are as follows:

- T. 21 N., R. 82 W., section 4, lots 1 and 2, S1/2NE1/4
- T. 22 N., R. 81 W., section 18, NE1/4NW1/4
- T. 23 N., R. 80 W., section 4, lots 3 and 4, E1/2S1/2NW1/4, SW1/4, W1/2SE1/4, SE1/4SE1/4
- T. 23 N., R. 84 W., section 23, W1/2SE1/4; section 35, NW1/4NW1/4

These split estate lands are owned by four qualified surface owners, all of whom were contacted by letter. Replies from three of the qualified surface owners indicated that they were not against surface mining. The fourth qualified surface owner did not reply. The letter sent by the BLM stated that if no reply was received, we would assume the surface owner had no preference against surface mining. Therefore, no lands were eliminated from further consideration on the basis of surface owner consultation.

APPENDIX E

STANDARDS FOR HEALTHY RANGELANDS AND GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT FOR THE PUBLIC LANDS ADMINISTERED BY THE BUREAU OF LAND MANAGEMENT IN THE STATE OF WYOMING

Introduction

According to the Department of the Interior's final rule for grazing administration, effective August 21, 1995, the Wyoming Bureau of Land Management (BLM) State Director is responsible for the development of standards for healthy rangelands and guidelines for livestock grazing management on 18 million acres of Wyoming's public rangelands. The development and application of these standards and guidelines are to achieve the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1). Those four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets State standards; and (4) habitat for special status species is protected.

Standards address the health, productivity, and sustainability of the BLM-administered public rangelands and represent the minimum acceptable conditions for the public rangelands. The standards apply to all resource uses on public lands. Their application will be determined as use-specific guidelines are developed. Standards are synonymous with goals and are observed on a landscape scale. They describe healthy rangelands rather than important rangeland by-products. The achievement of a standard is determined by observing, measuring, and monitoring appropriate indicators. An indicator is a component of a system whose characteristics (for example, presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles.

Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM administered public lands. These management practices will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes. Appropriate guidelines will ensure that the resultant management practices reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, like standards, apply statewide.

Implementation of the Wyoming standards and guidelines will generally be done in the following manner: Grazing allotments or groups of allotments in a watershed will be reviewed based on the BLM's current allotment categorization and prioritization process. Allotments with existing management plans and high-priority

allotments will be reviewed first. Lower priority allotments will be reviewed as time allows or when it becomes necessary for BLM to review the permit/lease for other reasons such as permit/lease transfers, permittee/lessee requests for change in use, etc. The permittees and interested publics will be notified when allotments are scheduled for review and encouraged to participate in the review. The review will first determine if an allotment meets each of the six standards. If it does, no further action will be necessary. If any of the standards aren't being met, then rationale explaining the contributing factors will be prepared. If livestock grazing practices are found to be among the contributing factors, corrective actions consistent with the guidelines will be developed and implemented before the next grazing season in accordance with 43 CFR 4180. If a lack of data prohibits the reviewers from determining if a standard is being met, then a strategy will be developed to acquire the data in a timely manner.

On a continuing basis, the Standards for Healthy Rangelands will direct on-the-ground management on the public lands. They will serve to focus the on-going development and implementation of activity plans toward the maintenance or the attainment of healthy rangelands.

Quantifiable resource objectives and specific management practices to maintain or achieve the standards will be developed at the local BLM District and Resource Area levels and will consider all reasonable and practical options available to achieve desired results on a watershed or grazing allotment scale. The objectives shall be reflected in site-specific activity or implementation plans as well as in livestock grazing permits/leases for the public lands. These objectives and practices may be developed formally or informally through mechanisms available and suited to local needs (such as Coordinated Resource Management (CRM) efforts).

The development and implementation of standards and guidelines will enable on-the-ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This development and implementation will also enable immediate attention to be brought to bear on existing resource concerns.

These standards and guidelines are compatible with BLM's three-tiered land use planning process. The first tier includes the laws, regulations, and policies governing BLM's administration and management of the public lands and their uses. The previously mentioned fundamentals of rangeland health specified in 43 CFR 4180.1, the requirement for BLM to develop these State (or regional) standards and guidelines, and the standards and guidelines themselves, are part of this first tier. Also part of this first tier are the specific requirements of various Federal laws and the objectives of 43 CFR 4100.2 that require BLM to consider the social and economic well-being of the local communities in its management process.

These standards and guidelines will provide for statewide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans, which represent the second tier of the planning process. The BLM land use plans provide general allocation decisions concerning the kinds of resource and land uses that can occur on the BLM-administered public lands, where they can occur, and the types of conditional requirements under which they can occur. In general, the standards will be the basis for development of planning area-specific management objectives concerning rangeland health and productivity, and the guidelines will direct development of livestock grazing management actions to help accomplish those objectives.

The third tier of the BLM planning process, activity or implementation planning, is directed by the applicable land use plan and, therefore, by the standards and guidelines. The standards and guidelines, as BLM statewide policy, will also directly guide development of the site-specific objectives and the methods and practices used to implement the land use plan decisions. Activity or implementation plans contain objectives which describe the site-specific conditions desired. Grazing permits/leases for the public lands contain terms and conditions which describe specific actions required to attain or maintain the desired conditions. Through monitoring and evaluation, the BLM, grazing permittees, and other interested parties determine if progress is being made to achieve activity plan objectives.

Wyoming rangelands support a variety of uses which are of significant economic importance to the State and its communities. These uses include oil and gas production, mining, recreation and tourism, fishing, hunting, wildlife viewing, and livestock grazing. Rangelands also provide amenities which contribute to the quality of life in Wyoming such as open spaces, solitude, and opportunities for personal renewal. Wyoming's rangelands should be managed with consideration of the State's historical, cultural, and social development and in a manner which contributes to a diverse, balanced, competitive, and resilient economy in order to provide opportunity for economic development. Healthy rangelands can best sustain these uses.

To varying degrees, BLM management of the public lands and resources plays a role in the social and economic well-being of Wyoming communities. The National Environmental Policy Act (part of the above-mentioned first planning tier) and various other laws and regulations mandate the BLM to analyze the socioeconomic impacts of actions occurring on public rangelands. These analyses occur during the environmental analysis process of land use planning (second planning tier), where resource allocations are made, and during the environmental analysis process of activity or implementation planning (third planning tier). In many situations, factors that affect the social and economic well-being of local communities extend far beyond the scope of BLM management or individual public land users' responsibilities. In addition, since standards relate primarily to physical and biological features of the landscape, it is very difficult to provide measurable socioeconomic indicators that relate to the health of rangelands. It is important that standards be realistic and within the control of the land manager and users to achieve.

Standards for Healthy Public Rangelands

Standard #1

Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

THIS MEANS THAT: The hydrologic cycle will be supported by providing for water capture, storage, and sustained release. Adequate energy flow and nutrient cycling through the system will be achieved as optimal plant growth occurs. Plant communities are highly varied within Wyoming.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Water infiltration rates;
- Soil compaction;
- Erosion (rills, gullies, pedestals, capping);
- Soil micro-organisms;
- Vegetative cover (gully bottoms and slopes); and
- Bare ground and litter.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #2

Riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for ground water recharge.

THIS MEANS THAT: Wyoming has highly varied riparian and wetland systems on public lands. These systems vary from large rivers to small streams and from springs to large wet meadows. These systems are in various stages of natural cycles and may also reflect other disturbance that is either localized or widespread throughout the watershed. Riparian vegetation captures sediments and associated materials, thus enhancing the nutrient cycle by capturing and utilizing nutrients that would otherwise move through a system unused.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Erosion and deposition rate;
- Channel morphology and flood plain function;
- Channel succession and erosion cycle;
- Vegetative cover;

Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.);
Bank stability;
Woody debris and instream cover; and
Bare ground and litter.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #3

Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.

THIS MEANS THAT: In order to maintain desirable conditions and/or recover from disturbance within acceptable timeframes, plant communities must have the components present to support the nutrient cycle and adequate energy flow. Plants depend on nutrients in the soil and energy derived from sunlight. Nutrients stored in the soil are used over and over by plants, animals, and micro organisms. The amount of nutrients available and the speed with which they cycle among plants, animals, and the soil are fundamental components of rangeland health. The amount, timing, and distribution of energy captured through photosynthesis are fundamental to the function of rangeland ecosystems.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

Vegetative cover;
Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.);
Bare ground and litter;
Erosion (rills, gullies, pedestals, capping); and
Water infiltration rates.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #4

Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

THIS MEANS THAT: The management of Wyoming rangelands will achieve or maintain adequate habitat conditions that support diverse plant and animal species. These may include listed threatened or endangered species (U.S. Fish and Wildlife-designated), species of special concern (BLM-designated), and other sensitive

species (State of Wyoming-designated). The intent of this standard is to allow the listed species to recover and be delisted, and to avoid or prevent additional species becoming listed.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Noxious weeds;
- Species diversity;
- Age class distribution;
- All indicators associated with the upland and riparian standards;
- Population trends; and
- Habitat fragmentation.

The above indicators are applied as appropriate to the potential of the ecological site.

Standard #5

Water quality meets State standards.

THIS MEANS THAT: The State of Wyoming is authorized to administer the Clean Water Act. BLM management actions or use authorizations will comply with all Federal and State water quality laws, rules and regulations to address water quality issues that originate on public lands. Provisions for the establishment of water quality standards are included in the Clean Water Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in Wyoming's Water Quality Rules and Regulations. The latter regulations contain Quality Standards for Wyoming Surface Waters.

Natural processes and human actions influence the chemical, physical, and biological characteristics of water. Water quality varies from place to place with the seasons, the climate, and the kind substrate through which water moves. Therefore, the assessment of water quality takes these factors into account.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Chemical characteristics (for example, pH, conductivity, dissolved oxygen);
- Physical characteristics (for example, sediment, temperature, color); and
- Biological characteristics (for example, macro- and micro-invertebrates, fecal coliform, and plant and animal species).

Standard #6

Air quality meets State standards.

THIS MEANS THAT: The State of Wyoming is authorized to administer the Clean Air Act. BLM management actions or use authorizations will comply with all Federal and State air quality laws, rules, regulations and standards. Provisions for the establishment of air quality standards are included in the Clean Air Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in Wyoming Air Quality Standards and Regulations.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

Particulate matter;
Sulfur dioxide;
Photochemical oxidants (ozone);
Volatile organic compounds (hydrocarbons);
Nitrogen oxides;
Carbon monoxide;
Odors; and
Visibility.

BLM Wyoming Guidelines for Livestock Grazing Management

1. Timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative ground cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site.
2. Grazing management practices will restore, maintain, or improve riparian plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site. Grazing management will maintain adequate residual plant cover to provide for plant recovery, residual forage, sediment capture, energy dissipation, and ground water recharge.
3. Range improvement practices (instream structures, fences, water troughs, etc.) in and adjacent to riparian areas will ensure that stream channel morphology (for example, gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform are maintained or enhanced. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological and hydrological functions, wildlife habitat, and significant cultural, historical, and archaeological values associated with the water source. Range improvements will be located away from riparian areas if they conflict with achieving or maintaining riparian function.
4. Grazing practices that consider the biotic communities as more than just a forage base will be designed in order to ensure that the appropriate kinds and amounts

of soil organisms, plants, and animals to support the hydrologic cycle, nutrient cycle, and energy flow are maintained or enhanced.

5. Continuous season-long or other grazing management practices that hinder the completion of plants' life-sustaining reproductive and/or nutrient cycling processes will be modified to ensure adequate periods of rest at the appropriate times. The rest periods will provide for seedling establishment or other necessary processes at levels sufficient to move the ecological site condition toward the resource objective and subsequent achievement of the standard.

6. Grazing management practices and range improvements will adequately protect vegetative cover and physical conditions and maintain, restore, or enhance water quality to meet resource objectives. The effects of new range improvements (water developments, fences, etc.) on the health and function of rangelands will be carefully considered prior to their implementation.

7. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of Federal threatened and endangered species or the conservation of federally-listed species of concern and other State-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats.

8. Grazing management practices and range improvements will be designed to maintain or promote the physical and biological conditions necessary to sustain native animal populations and plant communities. This will involve emphasizing native plant species in the support of ecological function and incorporating the use of non-native species only in those situations in which native plant species are not available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

9. Grazing management practices on uplands will maintain desired plant communities or facilitate change toward desired plant communities.

Definitions

Activity Plans: Allotment Management Plans (AMPs), Habitat Management Plans (HMPs), Watershed Management Plans (WMPs), Wild Horse Management Plans (WHMPs), and other plans developed at the local level to address specific concerns and accomplish specific objectives.

Coordinated Resource Management (CRM): A group of people working together to develop common resource goals and resolve natural resource concerns.

CRM is a people process that strives for win-win situations through consensus-based decision making.

Desired Plant Community: A plant community which produces the kind, proportion, and amount of vegetation necessary for meeting or exceeding the land use plan/activity plan objectives established for an ecological site(s). The desired plant community must be consistent with the site's capability to produce the desired vegetation through management, land treatment, or a combination of the two.

Ecological Site: An area of land with specific physical characteristics that differs from other areas both in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

Erosion: (v.) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n.) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Grazing Management Practices: Grazing management practices include such things as grazing systems (rest-rotation, deferred rotation, etc.), timing and duration of grazing, herding, salting, etc. They do not include physical range improvements.

Guidelines (For Grazing Management): Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management actions at the allotment and watershed level which move rangelands toward statewide standards or maintain existing desirable conditions. Appropriate guidelines will ensure that the resultant management actions reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, and therefore, the management actions they engender, are based on sound science, past and present management experience, and public input.

Indicator: An indicator is a component of a system whose characteristics (for example, presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles. An indicator can be evaluated at a site- or species-specific level. Monitoring of an indicator must be able to show change within timeframes acceptable to management and be capable of showing how the health of the ecosystem is changing in response to specific management actions. Selection of the appropriate indicators to be observed, measured, or monitored in a particular allotment is a critical aspect of early communication among the interests involved on-the-ground. The most useful indicators are those for which change or trend can be easily quantified and for which agreement as to the significance of the indicator is broad based.

Litter: The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

Management Actions: Management actions are the specific actions prescribed by the BLM to achieve resource objectives, land use allocations, or other program

or multiple use goals. Management actions include both grazing management practices and range improvements.

Objective: An objective is a site-specific statement of a desired rangeland condition. It may contain either or both qualitative elements and quantitative elements.

Objectives frequently speak to change. They are the focus of monitoring and evaluation activities at the local level. Monitoring of the indicators would show negative changes or positive changes. Objectives should focus on indicators of greatest interest for the area in question.

Range Improvements: Range improvements include such things as corrals, fences, water developments (reservoirs, spring developments, pipelines, wells, etc.) and land treatments (prescribed fire, herbicide treatments, mechanical treatments, etc.).

Rangeland: Land on which the native vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs. This includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

Rangeland Health: The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

Riparian: An area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not have vegetation dependent on free water in the soil.

Standards: Standards are synonymous with goals and are observed on a landscape scale. Standards apply to rangeland health and not to the important by-products of healthy rangelands. Standards relate to the current capability or realistic potential of a specific site to produce these by-products, not to the presence or absence of the products themselves. It is the sustainability of the processes, or rangeland health, that produces these by-products.

Terms and Conditions: Terms and conditions are very specific land use requirements that are made a part of the land use authorization in order to assure maintenance or attainment of the standard. Terms and conditions may incorporate or reference the appropriate portions of activity plans (for example, Allotment Management Plans). In other words, where an activity plan exists that contains objectives focused on meeting the standards, compliance with the plan may be the only term and condition necessary in that allotment.

Upland: Those portions of the landscape which do not receive additional moisture for plant growth from run-off, stream flow, etc. Typically these are hills, ridge tops, valley slopes, and rolling plains.

APPENDIX F

COAL

Sections in italics indicate changes or additions that have been made to the appendix from its original form as Appendix I in the original RMP.

Introduction

This appendix summarizes the final federal coal management decisions for the planning area. The process used to arrive at these decisions is briefly explained. This summary is intended to help the public to understand the federal coal management program as it applies to the planning area and to show the requirements that must be met under 43 CFR 3400. These planning decisions will guide the development of the federal coal resource in this area during the remainder of the 1990s and afterward.

[NOTE: All maps referred to in this appendix can be found on BLM Internet site at: <http://web.ead.anl.gov/rmpweb>]

To implement competitive coal leasing under regulations contained in 43 CFR 3420, on November 9, 1979, the BLM established a number of federal coal production regions, including the Green River-Hams Fork Region. That coal region includes the following counties: in Wyoming, Albany, Carbon, Lincoln, Sublette, Sweetwater, and Uinta; in Colorado, Grand, Jackson, Moffatt, Rio Blanco, and Routt. It was estimated that the coal production region contained sufficient federal coal deposits to justify offering coal leases through the competitive leasing process set out in 43 CFR 3420.3 through 3420.6. Much of the planning area is within this coal region.

During its October 9, 1987, meeting in Denver, the Green River-Hams Fork Regional Coal Team discussed the proposal to operate in a lease-by-application mode. As a result of that meeting, the regional coal team decided to offer an additional opportunity for public comment, with the comments received to be considered and responded to before the director of the BLM makes a final decision on the subject.

A decision document on lease-by-application was published in the Federal Register of December 28, 1987, along with a request for public comments. Two comments were received, both of which supported leasing-by-application in the Green River-Hams Fork Region. Therefore, since there is limited industry interest in additional tracts of federal coal in this region, coal leasing in the counties listed above will be handled on a lease-by-application basis under 43 CFR 3425. (The governors of Colorado and Wyoming concur in the recommendation.) The regional coal team will continue to be involved in the lease-by-application process as described in section 6c of its charter.

It is expected that this action will result in substantial savings in administrative costs to the federal government and the states of Colorado and Wyoming while a responsive leasing process is retained for the coal industry.

Whether coal is leased through leasing-by-application, activity planning, or coal lease exchanges, decisions to lease must be made within the area identified in this document as available for further consideration for coal leasing.

The objectives in managing the federal coal resource in this planning area are (a) to provide for both short- and long-range development of federal coal in an orderly and timely manner, consistent with the federal coal management program, policies, environmental integrity, national energy needs, and related demands; (b) to identify federal coal that is acceptable for further consideration for leasing; and (c) to identify appropriate mitigation for sensitive areas.

Requirements and Mitigation

Introduction

Lessees will be required to develop their federal leases in compliance with applicable federal, state, and local laws and regulations. These would be considered in-place constraints on a lessee's activities.

All areas identified in this document as acceptable for further consideration for coal leasing are subject to the following mitigation requirements:

Cultural Resources

a. Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized officer of BLM on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease-related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archaeologist, historian, or historical architect, as appropriate) approved by the Authorized Officer of the surface managing agency (BLM if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Regional Director of the Office of Surface Mining (OSM) and the Authorized Officer of BLM (or only to the authorized officer of BLM if activities are associated with coal exploration outside an approved mining permit area), to protect cultural resources on the leased land. The lessee shall undertake measures, in accordance with instructions from the Regional Director or Authorized Officer to protect cultural resources on the leased land. The lessee shall not commence the surface-disturbing activities until permission to proceed is given by the Regional Director or Authorized Officer.

- b. The lessee shall protect all known cultural resource properties within the lease area from lease related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation plan or exploration plan.
 - c. The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.
 - d. If cultural resources are discovered during operations under a lease, the lessee shall immediately bring them to the attention of the Regional Director or authorized officer, or the authorized officer of the surface managing agency if the Regional Director is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the Regional Director or authorized officer. Within two (2) working days of notification, the Regional Director or authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the Authorized Officer of BLM or of the surface managing agency (if different).
 - e. All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.
- Paleontological Resources

If paleontological resources, either large and conspicuous and/or of significant value are discovered during construction, the find will be reported to the authorized officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM-approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such discoverer will not be resumed until written authorization to proceed is issued by the authorized officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operations.

The Coal Planning Process

Introduction

The federal coal management program established four major steps to be used in the identification of federal coal areas that are acceptable for coal development: (1) identification of coal development potential, including a call for coal resource information (43 CFR 3420.1-2); (2) application of the coal unsuitability criteria; (3) multiple-use conflict evaluation; and (4) surface owner consultation. Collectively, these steps, which are called the "coal screening process" (43 CFR 3420.1-4), are applied in sequence to the review area.

The four major steps and how they were applied to the review area are described in the following sections.

Step 1: Identification of Development Potential Coal

In step 1, areas of coal with potential for development are identified with the use of government drill hole data, data collected through exploration licenses, geological and economic data submitted by coal companies, and interpretations of available geological data from various other sources. Expressions of interest from the coal industry also are used to guide this identification process. Expressions of interest were received for the Atlantic Rim, Indian Springs, North Indian Springs, Wild Horse Draw, and Red Rim areas.

When this screening step is applied, areas without development potential coal and areas with no known interest in development are excluded from further consideration. The areas found to have development potential are closer to existing transportation and/or contain better quality coal than the areas excluded from further consideration.

Table COAL-AP-1 (updated July 1998) presents coal quality and quantity data on all areas in the planning area that were determined to have coal with development potential. These areas are shown on map 19.

Table Coal-AP-1
Coal Resources in the Planning Area

Coal Area	Federal	Major	Federal	Average Proximate Analysis			
	Acreage		Tonnage				
	(mineral)	Seams	(million tons)	BTU/lb.	Moisture	Ash	Sulfur
Red Rim1	9720	Fillmore Ranch (B)	7.00	8184	27.00	6.12	0.30
		Separation Cr (D)	2.00	8103	26.55	7.12	0.15
		E2	5.00	8097	24.25	11.48	0.67
		Red Rim (F2)	13.00	9607	16.57	7.18	0.24
		Daley Ranch (G)	4.00	9496	17.85	6.78	0.33
China Butte1	6240	Fillmore Ranch	78.00	8337	26.42	7.28	0.36
		Muddy Creek	4.00	8685	25.03	5.78	0.61
		Separation Cr.	34.00	8655	22.65	5.97	0.42
		Red Rim	9.00	8384	21.64	11.48	0.45
Indian Springs2	2560	G, I, Wally	35.80	9626	14.75	8.24	0.33
North Indian Springs3	3840	G, I, Wally	25.00	9015	17.14	7.69	0.46
Atlantic Rim4	3840	A	11.00	10196	15.26	7.23	0.72
		B	11.00	10601	15.03	5.00	0.91
		C	30.50	10661	14.04	5.57	0.89
		D	38.50	10362	12.27	4.27	1.00
Hanna Basin5	30040	Hanna 81	160.00	10908	12.50	6.80	0.90
		Hanna 79	340.00	10690	10.30	9.80	0.70

		Hanna 78	360.00				
		Hanna 77	580.00				
		Ferris 65	78.00	11213	9.60	5.70	0.65
		Ferris 50	190.00	10055	12.80	12.20	0.41
		Ferris 31	95.00	10050	14.80	8.00	0.60
		Ferris 25	200.00	9327	14.60	9.80	0.50
		Ferris 23	78.00	10115	15.00	6.80	0.35
Carbon Basin5	12118	Finch	210.00	11450	9.88	8.74	0.50
		Johnson		11280	11.00	11.27	0.60

The Atlantic Rim, China Butte, and Red Rim areas have potential for surface mining only (see Figure 1). The Indian Springs and North Indian Springs areas have potential only for in situ development of coal resources (see Figure 1). There is potential for both surface and subsurface mining in the Hanna Basin area. The Hanna Basin area contains coal with development potential for surface mining (86 million tons) and subsurface mining (105 million tons). There is potential for both surface and subsurface mining in the Carbon Basin area (see map 33). The Carbon Basin area contains coal with development potential for surface mining (43 million tons) and subsurface mining (270 million tons). Coal in the Wild horse Draw and Northwest Cow Creek has been determined to have no potential for development.

The remaining three screening steps are applied to the coal areas identified in step 1. They are applied in sequence and only to the lands identified as acceptable for coal development in each preceding step.

Step 2: Application of Coal Unsuitability Criteria

Introduction

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to the areas identified in step 1.

These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, and other important features. The purposes of this step are (a) to identify areas with key features or environmental sensitivity that would make them unsuitable for surface coal mining or for subsurface coal mining where there would be surface operations and impacts associated with subsurface coal mining, and (b) to identify any appropriate mitigative measures resulting from the application of the unsuitability criteria and exceptions. The results of the application of the unsuitability criteria to each coal area are described in the following sections. After an expression of interest is filed and prior to tract delineation, the BLM will reinventory a proposed tract area and adjacent land to refine the unsuitability application. If the inventory reveals the presence of species or habitats covered criteria 9 to 15, the BLM will coordinate with the USFWS and WGFD to determine if any federal coal lands within the proposed tract area should be declared unsuitable.

Red Rim

Introduction

No unsuitable areas were identified for the Red Rim area under coal unsuitability criteria 1, 3 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

In the Red Rim area, most of the rights-of-way crossing the coal areas can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of mining and reclamation plans.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the Red Rim area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions: For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see map 30). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM after concurrence of USFWS and consultation with WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the Red Rim area were determined to be unsuitable under criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions: Surface disturbance and occupancy restrictions may be required to protect ferruginous hawk nesting areas within raptor nest concentration areas. Therefore, the lessee shall submit to the BLM, the USFWS, the Office of Surface Mining Reclamation and Enforcement (OSMRE), and the WGFD a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement of present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, OSMRE, WGFD, and USFWS and may be submitted before or concurrently with the filing of the mine permit application package. The BLM, OSMRE, WGFD, and USFWS will be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan.

The final habitat recovery and replacement plan must provide the locations, current status and reproductive history (two years minimum) of each nest on or within 2 miles of the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

The plan must include, but not be limited to, consideration of the following points:

- Nest site protection during the nesting season.
- Enhancement and protection of adjacent nesting habitat that will not be affected by mining disturbance (for example, construction of rock structures or pillars or actions intended to increase habitat diversity).
- Relocation of unoccupied nests to enhance other suitable habitat before surface disturbance begins.
- Restoration of topographic features and vegetative composition to restore nesting habitat and prey diversity affected by mining.
- Facilitation of raptor nest protection with private landowners and other public entities on lands adjacent to the lease area.
- The plan must include a timetable for implementation of the habitat recovery or replacement plan in relation to the overall mine plan. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

On September 27, 1982, the National Wildlife Federation and the Wyoming Wildlife Federation filed a petition with the OSMRE to designate approximately 9,000 acres as unsuitable. On May 19, 1986, the OSMRE published its decision in the Federal Register. In part, the notice read as follows:

Exercising this discretion, I decline to designate all or any part of the Red Rim petition area as unsuitable for surface coal mining operations, but hereby require that the approval of any Federal mining plan for the petition area include a condition that restricts from development the pronghorn winter range located within the south portion of the petition area until reclamation of pronghorn winter habitat in the north portion of the petition area has been demonstrated to be successful.

Reclamation in the north portion of the petition area shall be demonstrated to be successful when the Department of the Interior finds in writing that the operator/lessee has (1) demonstrated its capability to restore the carrying capacity of the critical winter range, (2) met the requirements of SMCRA, the applicable regulatory program, and the Bureau of Land Management's (BLM's) land-use planning decisions for the petition area, and (3) demonstrated that postmining vegetation would provide for pronghorn forage production equal to or greater than premining conditions. The postmining vegetation (composition and diversity [structural and species-specific]) must approximate premining conditions and be self-renewing when subjected to foraging use. The north portion of the petition area consists of sections 24, 26, and 34, T. 21 N., R. 89 W.; sections 4, 6, 8, and 18, T. 20 N., R. 99 W.; and sections 12, 14, 22, and 24, T. 20 N., R. 90 W. The south portion of the petition area consists of sections 26, 28, 32, and 34, T. 20 N., R. 90 W.; sections 4, 6, 8, 18, and 30, T. 19 N., R. 90 W.; and sections 24 and 26, T. 19 N., R. 91 W. The decision made by OSMRE is consistent with this approved RMP.

Criterion 16-Floodplains

It was determined that the floodplain area of Separation Creek in the Red Rim area can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the Red Rim area were found unsuitable under criterion 16.

China Butte

Introduction

No unsuitable areas were identified in the China Butte area under coal unsuitability criteria 1 through 8, 10, 12, or 17 through 20.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the China Butte area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions: For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see map 20). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM upon concurrence of the USFWS and consultation with the WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the China Butte area were determined to be unsuitable under Criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions:

Surface disturbance and occupancy restrictions may be required to protect ferruginous hawk nesting areas within raptor nest concentration areas. Therefore, the lessee must submit to the BLM, the USFWS, the OSMRE, and the WGFD a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement from present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, the OSMRE, the WGFD, and the USFWS. It may be submitted before or concurrently with the filing of the mine permit application package. The BLM, the OSMRE, the WGFD, and the USFWS will be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan.

The final habitat recovery and replacement plan must provide the locations, current status, and reproductive history (two years minimum) of each nest on or within 2 miles of

the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

The plan must include, but not be limited to, consideration of the following points:

- Nest site protection during the nesting season.
- Enhancement and protection of adjacent nesting habitat that will not be affected by mining disturbance (for example, construction of rock structures or pillars or actions intended to increase habitat diversity).
- Relocation of unoccupied nests to enhance other suitable habitat before surface disturbance begins.
- Restoration of topographic features and vegetative composition to restore nesting habitat and prey diversity affected by mining.
- Facilitation of raptor nest protection with private landowners and other public entities on lands adjacent to the lease area.

The plan must include a timetable for implementation of the habitat recovery or replacement plan in relation to the overall mine plan. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease areas during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in the China Butte area were determined to be unsuitable under criterion 15. The primary habitat considerations in the China Butte coal area are crucial winter range for antelope and deer and sage grouse leks.

If all or a significant portion of the crucial winter range for one or more of the big game species involved were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herds. However, in considering the exceptions to the criterion, the BLM determined that there will not be significant long-term impacts on the species being protected under certain stipulated methods of mining (such as habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between areas disturbed by mining and undisturbed areas.

Further, mitigative measures will be combined with appropriate mining methods to temper the impacts of mining in crucial winter range for big game. Sufficient forage will be provided to maintain WGFD target populations for wintering antelope and deer in the area. Therefore, these areas were determined to be acceptable for coal development with certain stipulated methods of mining and mitigation requirements under a concept of long-range leasing and development.

It was determined that grouse habitat areas are acceptable for coal development with stipulations and mitigation requirements for habitat improvement, development, and reclamation.

The China Butte coal area is acceptable for further consideration for leasing subject to the following conditions:

The lessee shall not disturb the area within a mile of the center of sage grouse strutting/nesting complexes except on areas that are to be mined. Any proposals for surface facilities or activities within a 2-mile radius of the center of sage grouse strutting/nesting complexes will be subject to seasonal occupancy restrictions as determined to be feasible by the authorized officer of the BLM. This measure may partially mitigate losses of sage grouse.

The lease holder shall attempt to relocate sage grouse strutting/nesting complexes that would be destroyed by the proposed action. Relocation efforts are to be coordinated with the BLM and the WGFD. This measure may partially mitigate a reduction in the sage grouse population of the area. (See the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements.)

Criterion 16-Floodplains

It was determined that the floodplain area of Fillmore Creek can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, control of sediment yields and prohibition of spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the China Butte area were found unsuitable under criterion 16.

Indian Springs and North Indian Springs

Introduction

No unsuitable areas were identified in the Indian Springs and North Indian Springs areas under coal unsuitability criteria 1, 3 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Indian Springs and North Indian Springs can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of mining and reclamation plans.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in Indian Springs and North Indian Springs were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not

yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11 and 13-Bald and Golden Eagle Nests and Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under criterion 11 or 13. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles and prairie falcons and their associated buffer zones, no surface operations will be allowed in such areas as long as the USFWS determines that the nest is viable (see Figure 1). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (prairie falcons, March 15 through July 15; golden eagles, February 15 through July 15). In addition, such exceptions will be subject to restrictions on location, type or design of facilities, and season of occupancy, and they may be allowed only with prior written permission of the authorized officer of the BLM after concurrence of USFWS and consultation with WGFD.

Larger disturbances such as upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 14-Migratory Bird Habitat

No areas in the Indian Springs and North Indian Springs areas were determined to be unsuitable under criterion 14. The area is acceptable for further consideration for leasing subject to the following conditions:

Surface disturbance and occupancy on about 6,000 acres will be limited to very small-scale and seasonal uses because active ferruginous hawk nests are present. This area includes all of the Indian Springs area and all of the North Indian Springs area except T. 22 N., R. 89 W., section 8, W1/2E1/2, W1/2, and section 28, SW1/4. Small surface disturbances such as pipelines, restricted use roads, and raptor-safe power lines may be allowed in the area so long as they are consistent with all current planning and management decisions and mitigation, and provided that no human activity or surface disturbance occurs during the nesting season (March 15 through July 31) and that the nest substrate (cliff, rimrock, tree, or other substrate) is not modified to disturb nesting ferruginous hawks.

Larger disturbances like upgrading of existing roads or construction of new roads, buildings, or railroad facilities within nest buffer zones would not be permitted.

A lease would be subject to the following mitigation:

- a. Any federal coal recovered from the Indian Springs Tract will be recovered by in situ coal development methods only.
- b. The lessee must submit to the BLM, the USFWS, the OSMRE, and the state of Wyoming (WGFD and DEQ) a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement from present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS. It may be submitted before or concurrently with the filing of the mine permit application package. However, because serious impacts can result from an inadequate plan, the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS would be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan. Close coordination among the BLM, the OSMRE, the state of Wyoming (WGFD and DEQ), and the USFWS during development of the plan will minimize the time needed for review and concurrence.
- c. The final habitat recovery and replacement plan must provide the locations, current status, and reproductive history (two years minimum) of each nest on or within 2 miles of the lease area and shall indicate the methods to be employed by the lessee to ensure that ferruginous hawk productivity and habitat diversity will not decline in the area.

Where rock features are disturbed, reclamation shall ensure replacement of the habitat in kind.

- d. For the protection of nesting ferruginous hawks and their associated buffer zones, no surface operations will be allowed in such areas. If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in such areas during breeding and nesting seasons (March 15 through July 31). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and to seasonal occupancy restrictions, and they may be allowed only with prior written permission of the authorized officer of the BLM upon concurrence of the USFWS and the WGFD.

Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new ferruginous hawk nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting hawks.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in Indian Springs or North Indian Springs have been determined to be unsuitable for in situ coal development methods under criterion 15. However, surface

disturbances and occupancy on approximately 3,000 acres of pronghorn crucial winter range will be limited to very small-scale and seasonal uses (see Figure 1 and the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements).

Criterion 16-Floodplains

It was determined that in situ coal development of Indian Springs and North Indian Springs could be undertaken without substantial threat of loss of life or property. Therefore, no areas were found unsuitable under Criterion 16 (floodplains).

Atlantic Rim

Introduction

No unsuitable areas were identified in the Atlantic Rim area under coal unsuitability criteria 1 through 8, 10, 12, 16 through 18, or 20.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in the Atlantic Rim area were determined to be unsuitable under criterion 9; however, some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets are present. The necessary searches and consultation with USFWS will be conducted during coal activity planning.

Criteria 11, 13, and 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat.

No areas were determined to be unsuitable under criterion 11, 13, or 14. The area is acceptable for further consideration for leasing subject to the following conditions:

For the protection of nesting eagles, prairie falcons, and ferruginous hawks and the buffer zones associated with the nests of these species, no surface coal mining operations will be allowed in such areas (see map 28). If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or small scale surface facilities, no surface-disturbing activities will be permitted in nesting areas or buffer zones during breeding and nesting seasons (eagles, February 15 through July 15; other raptors, March 15 through July 15). Such exceptions may be allowed only with prior written permission of the authorized officer of the BLM after concurrence of the USFWS and consultation with the WGFD. In addition, such exceptions will be subject to restrictions on locations, type or design of facilities, and season of occupancy.

Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. If any new nests should become established on or within 1 mile of the lease area during the course of mining, the lessee will consult with the USFWS to determine mitigative measures that may be needed to protect nesting birds.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in the Atlantic Rim area were determined to be unsuitable under criterion 15. The primary habitat consideration in the coal area is crucial winter and yearlong range for elk. The elk rely on a total yearlong range of 784,000 acres, of which about 327,000 acres is winter range and about 131,000 acres (17% of the total range) is crucial habitat, as defined under this criterion. Approximately 3,566 federal acres of this crucial habitat lie within this coal area.

The Atlantic Rim area is acceptable for further consideration for leasing subject to the following conditions:

The area will be subject to mitigation and reclamation measures for the protection of wintering and yearlong resident elk. Any proposals of the lessee to conduct mining operations or construct mining-related surface facilities within the Atlantic Rim coal area will be subject to stipulations for specific placement, design, and type of facilities; management of elk forage; and restrictions on the level of mining and human activity. These stipulations and restrictions will be developed in consultation with the WGFD and in conference with the USFWS, the Wyoming Wildlife Federation, and the National Wildlife Federation. The stipulations and restrictions will address the following situations:

- a. Elk need to get to the north end of the Atlantic Rim during severe winters. Mining activity will be confined to west-facing slopes, and no activity will be permitted east of the line indicated on map 28. This will keep people and mining activity out of sight of elk moving to the north via the east ridge. Impacts on resident elk will be minimized throughout the year.
- b. Aspen patches are the primary thermal and hiding cover for resident elk. These patches are primarily in and along the major drainages of the Atlantic Rim area. So that impacts on the elk herd can be minimized and the hydrologic integrity of the drainages in which aspen patches occur can be maintained, aspen patches in the major drainages will be protected from disturbance by mining or related support facilities (see map 28).
- c. Routes for access to Atlantic Rim and for transportation of coal from the area will be restricted to those found acceptable through consultation with the WGFD and other interested parties. This will minimize effects on wildlife while allowing consideration of the coal market and any foreseeable coal development in the area. Given present knowledge, the Twenty-Mile Road from Rawlins to the west side of the Atlantic Rim coal area appears to be the least environmentally sensitive route.
- d. Considerable amounts of winter forage would be unavailable to elk because of mine disturbance and activity. Sufficient forage would be provided to maintain WGFD target populations for wintering elk on the Atlantic Rim portion of the Baggs Elk Crucial Winter Range. The degree of overlap of foraging areas, and thus the dietary overlap between elk and cattle, will be determined, and adjustments in livestock management will

be made if necessary. Other mechanisms for replacement of forage, such as fertilization or vegetation manipulation, also will be considered. Artificial feeding will not be considered for forage replacement. The best mechanism or combination of mechanisms will be used to reduce impacts to the elk population.

e. Since the potential pit sites are part of the crucial elk winter range, human activity should be restricted to the mine site as much as possible. A threshold level of mining activity will be identified beyond which the elk population would be displaced from the winter range. Among other items, this threshold level of activity may address the number of separate pits operated simultaneously, the total amount of acreage disturbed at any given time, and the sequence of pit operations.

Application of this unsuitability criterion was done in consultation and coordination with other governmental agencies and public groups, as discussed in chapter 5 of this document.

Criterion 19-Alluvial Valley Floors

When the coal unsuitability review for the project area was conducted, possible alluvial valley floor areas were identified in two drainages that are in or near the project area- Separation Creek (in Jep Canyon) and Muddy Creek.

No areas were determined to be unsuitable under criterion 19. The area is acceptable for further consideration for leasing subject to the following conditions:

In identified possible alluvial valley floor areas or in other areas near them where the proposed coal mining could interrupt or intercept water flow to farming areas along the drainages, mining will be permitted only with mitigative measures for alluvial valley floor protection that are made a part of an approved mine plan. The state of Wyoming usually identifies alluvial valley floor areas and mitigative measures (if possible) during the mining plan approval and mine permitting stage.

Hanna Basin

Introduction

Coal unsuitability criteria were applied to the unleased federal coal with development potential in the Hanna Basin. No unsuitable areas were identified under coal unsuitability criteria 1, 4 through 8, 10, 12, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Hanna Basin can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary, along with appropriate stipulations and consistency with current planning and management decisions. Any

unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or during development of mining and reclamation plans.

Criterion 3-Public Roads, Cemeteries, Buildings, and Occupied Dwellings

Split estate coal lands in T. 22 N., R. 81 W., section 18, W1/2NE1/4NW1/4, were determined to be unsuitable under criterion 3 because of an occupied dwelling on the parcel. Approximately 20 acres containing 400,000 tons of coal are unsuitable.

Criterion 9-Federally Listed Threatened or Endangered Species Habitat

No areas in Hanna Basin were determined to be unsuitable under criterion 9. Some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets inhabit the areas. The necessary searches and consultation with the USFWS will be conducted during coal activity planning.

Some survey of bald eagle wintering areas and areas used during migration has been conducted. The WGFD has identified a bald eagle wintering area along the Medicine Bow River adjacent to the Hanna Basin area, but additional fieldwork is required to document the size of the area and its importance. Data from BLM surveys during 1978 and 1979 indicate that eagles made little use of this area. A possible additional area has been identified along the North Platte River. No bald eagle nests have been identified.

No recent sightings of peregrine falcons have been documented for this area. Some limited potential for nesting peregrine falcons exists along Seminoe Reservoir, Medicine Bow River, and possibly Hanna Draw because of the presence of perennial streams and associated nesting sites.

Criteria 11, 13, 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat

After filing of an expression of interest and before tract delineation, the BLM will reinventory any proposed tract and adjacent land to refine the application of criteria 11, 13, and 14. If the inventory should reveal the presence of species or habitats involving these criteria, the BLM would coordinate with the USFWS and the WGFD to determine if any federal coal lands within the proposed tract area should be declared unsuitable.

Criterion 15-Habitat for State High-Interest Wildlife and Plants

No areas in Hanna Basin were determined to be unsuitable under criterion 15. The primary habitat considerations in the Hanna Basin coal area are sage grouse leks and crucial winter range for antelope and deer.

If all or a significant portion of the crucial winter range for one or more big game species were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herds. However, in considering the exceptions to the criterion, the BLM determined that there will not be

significant long-term impacts on the species being protected under certain stipulated methods of mining (such as habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between areas disturbed by mining and undisturbed areas.

Further, mitigative measures will be combined with appropriate mining methods to temper the impacts of mining in crucial winter range for big game. Therefore, these areas were determined to be acceptable for coal development with certain stipulated methods of mining and mitigation requirements under a concept of long-range leasing and development.

It was determined that grouse habitat areas are acceptable for coal development with stipulations and mitigation requirements for habitat improvement, development, and reclamation.

The Hanna Basin Coal area is acceptable for further consideration for leasing subject to the following conditions:

The lessee shall not disturb the area within n mile of the center of sage grouse strutting/nesting complexes except on areas that are to be mined. Any proposals for surface facilities or activities within a 2-mile radius of the center of sage grouse strutting/nesting complexes will be subject to seasonal occupancy restrictions as determined to be feasible by the authorized officer of the BLM. This measure may partially mitigate losses of sage grouse.

The lease holder shall attempt to relocate sage grouse strutting/nesting complexes that would be destroyed by the proposed action. Relocation efforts are to be coordinated with the BLM and the WGFD. This measure may partially mitigate a reduction in the sage grouse population. (See the wildlife habitat portion of the multiple-use conflict evaluation later in this appendix for reclamation requirements.)

Criterion 16-Floodplains

It was determined that most identified floodplain areas in Hanna Basin can be mined without substantial threat of loss to people or property or to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include control of sediment yields and prohibition of spoil dumping in channels, lining channel bottoms, revegetation, and general mined land reclamation.

The floodplain of the Medicine Bow River in T. 23 N., R. 81 W., section 6, was found unsuitable for mining under criterion 16. This involves approximately 10 acres containing 15,000 tons of federal coal. All other floodplain areas in the Hanna Basin were determined to be acceptable with mitigation, as discussed above.

Carbon Basin

Introduction

Coal unsuitability criteria were applied to the federal coal with development potential in the Carbon Basin.

No unsuitable areas were identified in the Carbon Basin Area under coal unsuitability criteria 1, 4 through 6, 8, 10, 17, 18, or 20 and no rationale was required.

Criterion Number 2-Rights of Way and Easements

No areas were determined to be unsuitable under this criterion.

Rationale: Rights-of way crossing federal coal lands can be relocated to accommodate coal mining and related activities. Thus, a general determination was made that right-of-way areas would be acceptable for further leasing consideration and coal development subject to valid existing rights and negotiations for relocating (if necessary), appropriate stipulations and consistency with current planning and management decisions. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process, during the processing of individual coal lease applications, or in mining and reclamation plan development.

Criterion Number 3-Buffer Zones for Rights-of-Way, Communities, and Buildings

No areas were determined to be unsuitable under this criterion.

Rationale: While there are no occupied dwellings, schools, churches, community or institutional buildings, or public parks on BLM administered public land surface in the coal development potential area, some of these structures and facilities may exist on split estate lands, and on other non-federal lands located within 300-feet of adjacent federal coal lands.

Thus, it was determined that a 100-foot buffer zone around cemeteries and a 300-foot buffer around occupied dwellings, public buildings, schools, churches, community or institutional buildings, or public parks would be unsuitable for coal mining and related surface operations and impacts. Should any conflicts arise, it would be the responsibility of the lessee to show that conflicts between mining and the buffer zone would be adequately addressed and mitigated to the satisfaction of both parties. Since the numbers and locations of these structures and facilities and the potential affect on the development of federal coal is variable and unpredictable, it was not possible to make a reasonable estimate of the acreage and coal resources affected. These situations will be addressed on a case-by-case basis in the course of processing coal lease applications and coal activity planning, prior to issuing federal coal leases.

Buffer areas for rights-of-way are unnecessary because rights-of-way generally have sufficient area to contain their functions. Additionally, if a right-of-way can be relocated, a buffer would not be necessary.

Criterion Number 7-Places Included in the National Register of Historic Places

No areas were determined to be unsuitable under this criterion.

Rationale: There are no places on federal coal lands within the coal development potential area that are included in the National Register of Historic Places (NRHP).

There are several sites on federal lands which are "eligible" for listing on the NRHP, however. These are appropriately addressed later in the coal screening process as other multiple use conflicts.

Sites on BLM-administered public land surface that were reviewed include the Overland Trail, the Transcontinental Railroad grade, the Fort Halleck Road and the Town of Carbon Cemetery. Sites on private or state land surface (i.e., split estate, private or state surface/federal coal) that were reviewed include: the Fort Halleck Road and the Transcontinental Railroad grade.

Criterion Number 9-Federally Listed Endangered Species Habitat

No areas were determined to be unsuitable under this criteria.

*Rationale: There is no known occupation of federally listed endangered species in the coal development potential area. However, habitat for endangered species in the coal development potential area have not been inventoried. The habitat is well suited for prairie dogs and, therefore, is potential habitat for black footed ferrets (*Mustela nigripes*), a federally-listed endangered species. Required surveys for prairie dog complexes will be included in the stipulations for any Federal coal lease that may be issued in the area. This will also be addressed in the Biological Assessment portion of subsequent EIS processes associated with the issuance of coal leases and with mine plan development. Any area found to support an endangered species would be acceptable for coal development with a provision that any federal coal lease issued would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species and habitats involved. Other stipulations may be to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, or reclamation plans (in conjunction with mining and reclamation plan requirements) to the satisfaction of BLM and the USFWS; mitigation measures may include but would not be limited to such things as seasonal operations in some areas, off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term habitat protection.*

A portion of the coal development potential area lies within the black-footed ferret (BFF) Primary Management Zone (PMZ) 2. BFF searches would not be required within those areas due to the experimental/nonessential designation and management guidelines presented in the ferret plan. However, because recent surveys have indicated that BFF's may have moved into PMZ2, USFWS and WGFD is recommending that ferret surveys be conducted within the PMZ's.

Criterion Number 11-Bald and Golden Eagle Sites

No areas were determined to be unsuitable under this criterion.

Rationale: According to the most current data available, there are no bald eagles nesting in the review area and the area is not suitable habitat for bald eagles. Three golden eagle nests have been observed on federal lands in the review area, but their status has not been determined.

It was determined that the review area would be acceptable for coal development with a provision that any federal coal lease issued in the area would include a requirement to conduct surveys for active eagle nests and for developing appropriate mitigation measures that would protect the long-term interests of the species involved. The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation may include, but would not be limited to such things as seasonal operations in buffer zones around occupied nests, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off- or on-site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Criterion Number 12-Bald and Golden Eagle Roosts

No areas were determined to be unsuitable under this criterion.

Rationale: According to the most current data available, there are no bald or golden eagle roosting areas in the review area.

It was determined that the review area would be acceptable for coal development with a provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to survey for bald and golden eagle roosting activity and, if found, develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation may include, but would not be limited to such things as seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term habitat protection.

Criterion Number 13-Falcon Cliff Nesting Sites

No areas were determined to be unsuitable under this criterion.

Rationale: According to the most current data available, there are no falcon cliff nesting sites in the review area. However, prairie falcons have been observed in the area.

It was determined that the review area would be acceptable for coal development with a provision that any federal coal lease issued in the area would include a requirement to survey for falcon nesting sites and for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat

improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation may include, but would not be limited to such things as seasonal operations in buffer zones around occupied nests, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection, seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term habitat protection.

Criterion Number 14-Migratory Bird Act

No areas were determined to be unsuitable under this criterion.

Rationale: It was determined that the review area would be acceptable for coal development with a provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM, the USFWS, and the appropriate state agencies. Mitigation may include, but would not be limited to such things as seasonal operations in buffer zones around occupied nests and other important habitat areas, protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the USFWS), off or on site habitat improvement or development, special reclamation measures, or other appropriate measures for long-term nest or habitat protection, seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

The following species can be found in the review area; American kestrel, Falco sparverius, peregrine falcon, Falco peregrinus, prairie falcon, Falco mexicanus, burrowing owl, Athene cunicularia, Horned Lark, Eremophila alpestris, sage thrasher, Oreoscoptes montanus.

Criterion Number 15-Habitat for State High-Interest Wildlife and Plants

No areas were determined to be unsuitable under this criterion.

Rationale: The primary habitat considerations involved with the review area are deer and antelope crucial winter ranges, and sage grouse leks and nesting areas. It was determined that the review area would be acceptable for coal development with a provision that any federal coal lease issued in the area would include a requirement for developing appropriate mitigation measures that would protect the long-term interests of the species and habitats involved.

The requirement (or lease stipulation) would be to the effect that the lessee would be required to develop mitigation measures or habitat

improvement/development/reclamation plans (in conjunction with mining and reclamation plan requirements) in consultation with and to the satisfaction of BLM and the appropriate State agencies. Mitigation may include, but would not be limited to such things as seasonal operations in some areas, off- or on-site habitat improvement or development, special reclamation measures (e.g., habitat recovery), timing and sequencing of mining or other appropriate measures for long-term nest or habitat protection, seasonal operations in roosting areas, special reclamation measures, or other appropriate measures for long-term nest or habitat protection.

Concerning deer and antelope crucial winter range: Mitigative measures would be combined with appropriate mining methods to temper the impacts of mining in these areas under a concept of maintaining a long-range balance between habitat and coal leasing and development.

Concerning grouse lek and nesting areas, it was determined that grouse habitat areas are acceptable for coal development with stipulations and mitigation requirements for habitat improvement, development, and reclamation. Exploration activities and ancillary facilities would be allowed provided that (1) the surface disturbing activities related to exploration and ancillary facility development avoid the lek and 1/4 mile distance from lek area, if possible, and where not possible, intensive mitigation were applied; (2) permanent and high profile structures, such as buildings, overhead powerlines, other types of ancillary facilities, etc., were prohibited in these lek and 1/4 mile distance from lek area; (3) during the grouse mating season, surface uses and activities were prohibited between the hours of 6:00 p.m. and 9:00 a.m. within 1/2 mile distance from the leks; (4) if surface disturbance in the nesting area within a two mile radius of a lek were limited to only actual mining activity and other activities were subject to seasonal limitations; and (5) if it were attempted to relocate lek and nesting complexes that are disturbed or destroyed by coal mining (relocation efforts are to be coordinated with the BLM, WGFD and other appropriate state agencies).

Criterion Number 16-Riverine, Coastal, and Special Floodplains

The floodplain of the Medicine Bow River, located in S¹/₂NW¹/₄NE¹/₄, SE¹/₄NE¹/₄NW¹/₄, Sec. 12, T. 20 N., R. 80 W., approximately 30 acres, was determined to be unsuitable for coal mining and related surface operations and impacts.

Rationale: With the exception of the small area of the Medicine Bow River floodplain within the review area, it was determined that the other floodplain areas within the review area can generally be mined in such a manner that all or certain stipulated methods of coal mining can be undertaken without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of lease requirements may include but are not limited to relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation and general mined land reclamation, etc. No 100-year floodplain mapping has been done for this area. However, there are riparian and wetland habitat areas mapped (National Wetlands Inventory) in the coal development potential area. These areas should be evaluated further before allowing disturbance from surface mining.

Criterion Number 19-Alluvial Valley Floors

No areas were determined to be unsuitable under this criterion.

Rationale: No alluvial valley floors have been identified by the State of Wyoming or by the BLM within the coal development potential area. The State of Wyoming usually identifies alluvial valley floor areas and mitigative measures during the mine plan approval and mine permitting stage. The area is acceptable for further leasing consideration subject to the following conditions:

In potential alluvial valley floors, or in other areas near them, where coal mining could interrupt or intercept water flow to farming areas along the drainages, mining will be permitted only with mitigative measures, that are made a part of an approved mine plan.

Summary of Results of Application of the Unsuitability Criteria

Thirty acres of public coal lands within the coal development potential area (Zero tons of surface minable coal) were determined to be unsuitable for coal mining and related surface operations and impacts. Areas found to be unsuitable for coal development and further leasing consideration were the floodplain area of the Medicine Bow River (30 acres unsuitable for both surface and subsurface mining activity). No known surface recoverable coal reserves exist at this site, but could be impacted by surface mining operations.

Step 3: Multiple-Use Conflict Evaluation**Introduction**

As required by 43 CFR 3420.1-4(e)(3), multiple land-use decisions were made on areas found suitable upon application of the unsuitability criteria. Step 3, evaluation of multiple-use conflicts, provides for the protection of locally, regionally, or nationally important or unique resource values and land uses not included in the unsuitability criteria.

Groundwater and Surface Water Resources

Potential impacts on groundwater and surface water resources are of concern in the Indian Springs, North Indian Springs, and Atlantic Rim areas. Mitigation will be applied in those areas to reduce the effects due to possible aquifer removal, interruption of groundwater flow, change in groundwater flow from replaced overburden, water quality changes from spoil material leaching and mixing between aquifers, and subsidence and/or fracturing of overlying rocks.

No areas are unacceptable; however, the following mitigation requirements will be applied:

The lessee shall prepare and submit to the BLM, concurrently with the filing of a permit application package, a hydrologic mitigation study. The study must include a factual statement of the following:

- a. Identification of all affected surface water, water table (unconfined), and artesian (confined) waters, including the location and direction of movement of all groundwater.
- b. Appropriate characteristics of the waters, which might include yield or flow; conductance; pH; temperature; alkalinity; total dissolved solids; dissolved amounts of such elements as sulfates, chlorides, barium, cadmium, copper, iron, lead, radioactive materials, turbidity; and total dissolved oxygen.
- c. Identification of development activities that would affect the above waters, and the probable impact on such waters from each activity.
- d. A discussion of the interrelationships between surface water and groundwater in the project area and the likely effects on this relationship from development of the Federal coal.
- e. Identification of proposed mitigative measures to reduce the impacts identified in (c) above.
- f. A plan for monitoring surface water and groundwater conditions in the project area and downstream from the project. The water quality standards of the Wyoming Department of Environmental Quality and the U.S. Public Health Service shall be used where applicable.

In addition, the following mitigation requirement will be applied in the Indian Springs and North Indian Springs areas.

In accordance with state law and regulation, the permit application package submittal shall include a detailed description of the effects of possible mined land subsidence and faulting. This must include the proposed measures to be taken to prevent or minimize the effects of subsidence and faulting and procedures that will be taken in terms of backfilling, grading, contouring, etc., in the event that any subsidence or faulting occurs.

Wildlife Habitat

Loss of wildlife habitat for varying lengths of time on surface-mined areas, roads, railroads, and facilities is unavoidable. In addition to the loss of habitat, some areas will become unusable by animals that are intolerant of human activity. No additional areas have been determined to be unacceptable; however, the following mitigation requirements will be applied in the Indian Springs, North Indian Springs, Atlantic Rim, Red Rim, China Butte, and Hanna Basin areas:

A. Recovery of wildlife habitat on the project area will be required. The lessee will be required to mitigate habitat loss caused by surface coal mining operations in the project area. Where crucial habitat is disturbed, reclamation will ensure replacement of that habitat in kind. Mitigation methods may require the lessee to employ techniques for wildlife forage manipulation or intensive wildlife habitat management.

B. Habitat recovery may not be completely feasible in the project area; therefore, recovery or replacement may be accomplished on lands outside the project area in combination with recovery and replacement methods on suitable lands within the project area. Such habitat recovery provisions must be acceptable to the BLM, the WGFD, and the USFWS. Lands outside the project area for such habitat recovery may be made available through the surface management agency, the state, or the lessee. In regard to the

above the lessee will be required to develop a habitat recovery and replacement plan designed to protect and/or enhance wildlife habitat. This plan shall be prepared before mining plan approval, in consultation with and subject to approval by the BLM, the USFWS, and OSMRE, and the state of Wyoming. The habitat recovery and replacement plan shall include, but will not be limited to, the following provisions:

1. A detailed description of the methods selected by the lessee to mitigate habitat loss, together with a comparative analysis of alternate methods that were considered and rejected by the lessee, and the rationale for the decision to select the proposed methods. The replacement may include, but is not limited to, the following techniques:
 - a. Increasing the quantity and quality of forage available to wildlife
 - b. The acquisition of wildlife crucial habitats
 - c. Manipulation of wildlife habitat for selected wildlife species
 - d. Recovery, replacement, or protection of important wildlife habitat by selected methods such as modifying or eliminating fencing. Construction of new fences will be kept to a minimum on winter ranges and within migration routes. Fencing will be coordinated with the WGFD to ensure protection of these resources.
 - e. Wildlife watering developments.
2. A timetable giving the periods of time that will be required to accomplish the habitat recovery or replacement plan and showing how this timetable relates to the overall mining plan.
3. An evaluation of the final plan by the state of Wyoming. The state will comment on the methods selected and the techniques to be employed by the lessee and may recommend alternate recovery or replacement methods. If the state has recommended alternate methods, the lessee shall consider the state's recommendations and, if the lessee rejects the state's recommendations, the lessee shall indicate its reasons as required by provision B, above. If no state comment is included in the plan, the lessee shall verify its consultation with the state and the plan may be considered without state comment.
4. A habitat analysis of the lease area (including a 2-mile buffer around the lease area) and those areas considered for off-site mitigation. The analysis shall identify the following features:
 - a. Distribution of important wildlife species (game, nongame sensitive species, species of high federal interest, and threatened or endangered species)
 - b. Distribution of important standard habitat types

Fisheries, Water Quality, and Recreation

Proposed coal development could cause significant adverse impacts at the Seminole Reservoir, which is managed by the Bureau of Reclamation. Adverse impacts that could result from coal development are (a) interruption or interception of groundwater and surface water systems; (b) water transfer between the reservoir and mining pits, which could degrade water quality and impair fisheries habitat, recreational activities, and downstream water uses; and (c) impairment of scenic quality through visual intrusion of

the mining operation and related recreational activities. Further analysis is available in the "Amendment to the Hanna Basin Management Framework Plan and Draft Environmental Assessment" (USDI, BLM and USDI, GS 1984).

For the protection of the water values of Seminole Reservoir, the BLM and the Bureau of Reclamation have jointly determined that no surface occupancy will be allowed within a 200-foot buffer zone between any surface coal mining operation and the high-water design elevation of 6,363.7 feet. Approximately 3,420 acres containing 22.4 million tons of coal are within this buffer zone.

Producing Oil and Gas Areas

As of this date, a draft policy addressing development conflicts between coal/oil and gas is being considered for adoption. The final policy will guide actions involving coal/oil and gas conflicts.

Lands Near Populated Areas

Federal coal lands in T. 22 N., R. 81 W., section 16, NW1/4NW1/4, and section 18, S1/2NW1/4, are near the towns of Hanna and Elmo. The impacts of coal development on the residents of Hanna and Elmo are a concern. In addition, there are structures on federal land in section 18 related to Hanna's water system.

These lands have been determined to be acceptable for further consideration subject to mitigation. Specific mitigative measures to protect the quality of life and provide for improvements on the land would have to be acceptable to the residents of Hanna and Elmo. These measures should be worked out in coordination with local residents as soon as the BLM receives any possible lease proposal.

Step 3: Multiple Use Conflict Evaluation for Carbon Basin

Introduction

As required by 43 CFR 3420.1-4(e)(3), multiple land-use decisions were made on areas found suitable upon application of the unsuitability criteria. Step 3, evaluation of multiple-use conflicts, provides for the protection of locally, regionally, or nationally important or unique values and land uses not included in the unsuitability criteria.

General Monitoring, Evaluation

The Carbon Basin planning review area is subject to continued field investigations, studies, and evaluations to determine if certain methods of coal mining can occur without significant long-term impacts on wildlife, cultural, and watershed resources, in general, and on threatened and endangered plant and animal species and their essential habitats.

Such investigations, studies, and evaluations may be conducted on an as-needed or case-by-case basis in reviewing individual coal leasing and development proposals (e.g., mine

plans) or, if opportunities or needs arise, area-wide studies may be conducted. These studies include keeping resource databases current, analysis of effects to wildlife and threatened and endangered species habitats and populations, and the cumulative effects of mining operations and other development or surface-disturbing activities in the area. Consultation with other agencies, interested parties, and industry will occur as needed or required.

As a result of the coal screening process, the following conditional requirements or mitigation measures will be applied, as appropriate and necessary, to surface disturbing activities associated with mining and development of the Federal coal in the Carbon Basin area.

Cultural Resources

In order to preserve the historic setting of the Town of Carbon Cemetery, 120 acres of Federal coal lands (T.22 N., R.80 W., Sec. 26, SW $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$) surrounding and including the cemetery is open to consideration for further coal leasing and development by subsurface mining methods only. Surface occupancy and surface disturbance on this area is prohibited.

Paleontological Resources

If paleontological resources, either large and conspicuous or of significant value are discovered during construction or mining activity, the find will be reported to the authorized officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM-approved paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such discovery will not be resumed until written authorization to proceed is issued by the authorized officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operations.

Lands and Realty Program Management

Existing roads and rights-of-way (ROWs) for powerlines and pipelines will be relocated to accommodate coal mining and related activities. Areas with existing ROWs are open to consideration of coal leasing and development, subject to valid existing rights and negotiations for relocating pipelines and powerlines, if necessary. Prior rights will be protected for all ROWs of record. Any unforeseen conflicts in the planning review area will be identified and resolved during the coal leasing process or during development of mining and reclamation plans.

Surface or subsurface coal mining and related surface operations and impacts will be prohibited on Federal coal lands within a 100-foot buffer zone around cemeteries and a

300-foot buffer around occupied dwellings or structures. Should conflicts arise, it will be the responsibility of the lessee to show that the conflicts between mining activity and the buffer zone will be adequately addressed and mitigated to the satisfaction of the involved parties. These situations, if they arise, will be addressed during the course of processing Federal coal lease applications and prior to issuing any Federal coal lease.

Because coal mining in the overlap of the planning review area and the Simpson Ridge Windpower Project Area may not occur in the near future, and because placement of wind energy facilities or coal mining activities cannot be determined at this time, the following provision has been placed in the wind energy ROW grant:

Federal coal resources underlie a portion of the Simpson Ridge Windpower Project Area. To prevent Federal coal resources from being devalued by surface improvements, the grant holder may place wind energy facilities on the public lands identified below, but bears the responsibility for repair, replacement, or lost revenue should the BLM subsequently lease Federal coal and if the mining of such coal damages or impairs the operation of wind energy facilities. The lands subject to this condition are:

T. 21 N., R. 80 W. Section 12: All Section 14: All

T. 22 N., R. 80 W. Section 22: NE¼, S½ Section 26: N½NW¼, SW¼NW¼ Section 34: All

Oil and Gas Resource Management

Conflicts could arise where 8,634.64 acres of Federal oil and gas leases overlap Federal coal areas open to consideration of coal development and leasing. To allow for full development of both resources, current BLM policy, including use of appropriate lease stipulations, will be used to resolve any conflicts that arise between oil and gas development and coal development.

Soil, Water, and Air Resource Management

Riparian habitat and wetland areas will be open to consideration of coal development and leasing. During the mine permitting process, it may be determined that some drainages would be best avoided, while short reaches of other drainages would be diverted around mine pits and held in temporary channels or ponds.

In potential alluvial valley floors and adjacent areas where coal mining could interrupt or intercept water flow to farming areas along drainages, mining of Federal coal will be allowed only with appropriate mitigation measures made part of an approved mine plan or permit.

Wildlife Habitat and Fisheries Resource Management

All Federal coal lands that are open to consideration of leasing and development will be subject to continued field investigations, studies, and evaluations to determine if certain methods of coal mining can occur without having a long-term impact on wildlife, in general, and on threatened and endangered species and their essential habitats.

Required surveys of prairie dog complexes will be included in the stipulations for any Federal coal lease that may be issued in the area. In addition to prairie dog complexes, any area found to support an endangered species would be acceptable for coal development with a provision that any Federal coal lease issued will include a requirement for developing appropriate mitigation measures that will protect the long-term interests of the species and habitats involved. The U.S. Fish and Wildlife Service (FWS) has required that if black-tailed prairie dog colonies or complexes greater than 79 acres or white-tailed prairie dog colonies or complexes greater than 200 acres would be disturbed, surveys for black-footed ferrets should be conducted. Surveys will be conducted as part of the coal lease application EIS for bald and golden eagle roosts and nests, falcon cliff nesting sites, and birds protected under the Migratory Bird Treaty Act.

A Biological Assessment (BA) will be prepared in conjunction with the environmental impact statement (EIS) or environmental assessment (EA) that is prepared prior to issuing a Federal coal lease. As a result of the BA, EIS or EA, other stipulations may be identified, to the effect that the lessee would be required to develop mitigation measures or habitat improvement, development, or reclamation plans to the satisfaction of the BLM and FWS. Mitigation measures may include, but are not limited to, such things as seasonal operations in some areas, buffer zones around occupied nests (e.g., eagles, falcons), protection of active (not necessarily occupied) nests at all times (unless otherwise provided by the FWS), on- or off-site (but on-lease) habitat improvement or development, special reclamation measures, or other appropriate measures for long-term habitat protection.

Mitigative measures will be combined with appropriate mining methods to reduce impacts of mining in antelope and deer crucial winter ranges within the planning review area in order to maintain a long-range balance between habitat needs and coal development.

Sage grouse habitat areas will be open to coal development with stipulations and mitigation requirements for habitat maintenance, improvement, development and reclamation. Exploration activities and ancillary facilities will be allowed provided that, (1) the surface disturbing activities related to exploration and ancillary facility development will avoid the lek area and the area 1/4-mile distant from the center of the lek area, if possible, and where not possible, intensive mitigation is applied; (2) permanent and high profile structures, such as buildings, overhead powerlines, other types of high profile ancillary facilities, etc., are prohibited in the lek area and the area 1/4-mile distant from the center of the lek area; (3) during the grouse mating season, surface uses and activities are prohibited between the hours of 6:00 p.m. and 9:00 a.m., within 1/2-mile of the center of the lek area; (4) if surface disturbance in the nesting area, within a 2-mile distance of a lek center is limited to only actual mining activity and other activities are subject to seasonal limitations; and (5) if it is attempted to relocate lek and nesting complexes that are disturbed or destroyed by coal mining (relocation efforts are to be coordinated with the BLM, WGFD and other appropriate agencies).

Step 4: Surface Owner Consultation

Section 714 of the Surface Mining Control and Reclamation Act (SMCRA) requires that the BLM consult with certain "qualified" owners of "split estate" lands (privately owned surface over federally owned coal) when surface mining of the federal coal is being considered.

In step 4 of the goal planning process, surface owners who may be "qualified" under section 714 of SMCRA are asked to state their opinion for or against surface coal mining on their land. Areas where a significant number of qualified owners oppose surface mining of federal coal are eliminated from consideration for this mining method.

This step does not apply to areas where only subsurface mining methods are concerned. It involves only split estate lands within competitive federal coal areas that remain acceptable for development by surface mining methods after the multiple-use conflict evaluation has been conducted.

The Red Rim, Indian Springs, North Indian Springs, and China Butte areas do not contain split estate lands as defined in this section.

Split estate lands in the Atlantic Rim coal area are as follows:

- T. 18 N., R. 90 W., section 28, W1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4
- T. 19 N., R. 89 W., section 31, all.

Split estate lands in the Hanna Basin coal area are as follows:

- T. 21 N., R. 82 W., section 4, lots 1 and 2, S1/2NE1/4
- T. 22 N., R. 81 W., section 18, NE1/4NW1/4
- T. 23 N., R. 80 W., section 4, lots 3 and 4, E1/2S1/2NW1/4, SW1/4, W1/2SE1/4, SE1/4SE1/4
- T. 23 N., R. 84 W., section 23, W1/2SE1/4; section 35, NW1/4NW1/4

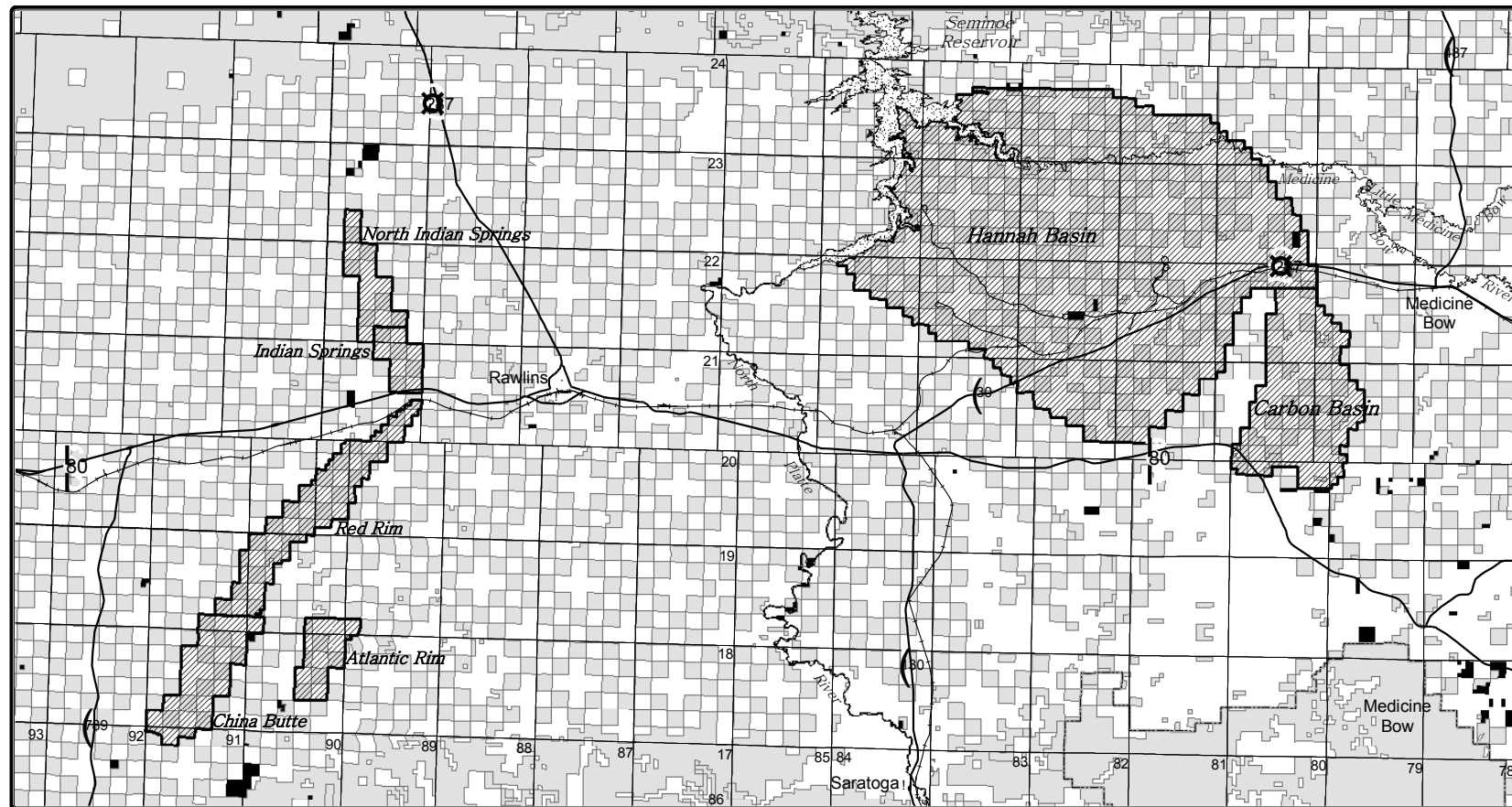
These split estate lands are owned by four qualified surface owners, all of whom were contacted by letter. Replies from three of the qualified surface owners indicated that they were not against surface mining. The fourth qualified surface owner did not reply. The letter sent by the BLM stated that if no reply was received, we would assume the surface owner had no preference against surface mining. Therefore, no lands were eliminated from further consideration on the basis of surface owner consultation.

Split estate lands in Carbon Basin are as follows:

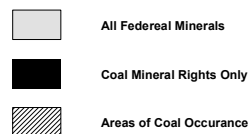
- T. 21 N., R. 79 W., section 6, lots 1-7, S1/2N1/2,N1/2S1/2,SE1/4*
- T. 22 N., R. 79 W., section 30, lots 1-4, N1/2NE1/4, SE1/4NE1/4,N1/2SE1/4, S1/2S1/2*
- T. 21 N., R. 80 W., section 2, N1/2, SW1/4*

These lands are held by one qualified surface owner who was not against surface mining. Therefore, no lands were eliminated from further consideration on the basis of surface owner consultation.

Figure 1. Areas acceptable for further consideration for coal leasing



Overview of the Rawlins Field Office Area



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Fig 1.1 Areas Acceptable for
Further Consideration for Coal Leasing
Rawlins Field Office Area Overview
Rawlins Field Office Resource Management Plan

APPENDIX G

LAND EXCHANGE CRITERIA

The purpose of this paper is to: (1) present Bureau of Land Management (BLM) land exchange policy; (2) examine the BLM land use planning process in relation to decisions in the Great Divide Resource Area Record of Decision/ Approved Resource Management Plan (RMP); and (3) provide clarification and explanation of the Great Divide RMP decisions as they relate to land exchange proposals, to assist in determining if a proposed exchange is consistent with BLM policy and the RMP decisions.

This paper will help land exchange proponents formulate realistic exchange proposals, provide BLM staff and management with clear and consistent guidelines against which to evaluate proposals, and better inform the public about the BLM land exchange program.

1. Land Exchange Laws, Regulations, and Policy

The Federal Land Policy and Management Act (FLPMA)

In our nations history, federal lands have been used as a form of payment when the nation was short of cash, to promote settlement of western lands, and to promote resource development policies. Up until the mid-twentieth century, the ultimate goal for federal lands administered by the BLM (i.e. public lands) was to transfer them to private ownership.

The Federal Land Policy Management Act (FLPMA), passed in 1976, defines public lands as “...any land and interest in land owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except --- (1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts, and Eskimos.” The FLPMA marked a change in federal policy toward the public lands. In the Act, Congress declared that it was the policy of the United States that:

The public lands be retained in Federal ownership, unless as a result of the land use planning procedure... it is determined that disposal of a particular parcel will serve that national interest (43 USC 1701, Sec. 102 (a) (1)). Uniform procedures for any disposal of public land, acquisition of nonfederal land for public purposes, and the exchange of such lands be established by statute, requiring each disposal, acquisition, and exchange to be considered with the prescribed mission of the

department or agency involved, and reserving to the Congress review of disposal in excess of a specified acreage (43 CFR 1701, Sec. 102 (a)(10)).

Section 206 of FLPMA further refined Congress' intention about land exchanges.

A tract of public land or interests therein may be disposed of by exchange ... [when it is determined] that the public interest will be well served by making that exchange: *Provided*, That when considering public interest the Secretary concerned shall give full consideration to better Federal land management and needs of State and local people, including needs for lands for the economy, community expansion, recreation areas, food fiber, minerals, and fish and wildlife and the Secretary concerned finds that the values and the objectives which Federal lands or interests and the public objective they could serve if acquired.

Federal law prohibits exchange of public land in one state for private land in another, unless authorized by an act of Congress. Exchanges are to be of equal value, based on a fair market appraisal, and do not have to be of equal acreage. In other words, exchanges are made on a value-for-value basis rather than an acre-for-acre basis. Furthermore, land exchanges are a discretionary bureau action. BLM is not obligated to process every proposal it receives, even if the proposal has some merit. BLM evaluates exchange proposals in light of existing workloads, funding, and other program priorities when deciding to pursue a land exchange proposal.

Bureau of Land Management Exchange Policy

BLM interpreted congressional intent in FLPMA and established 14 general land exchange principles at BLM Manual 2200.06 A (1984). The 14 principles set forth general BLM policy for the exchange of public lands or interest. They represent a commitment by BLM to implement the land exchange policies of FLPMA, consistent with BLM's other statutory obligations. The complete text of all 14 principles is presented in Attachment A.

The BLM Wyoming State Office issued a public land exchange and sale policy for Wyoming in May 1996 (WY-IM-96-067, Attachment B). The Wyoming BLM policy enlarges on the concept of public interest from Section 206 of FLPMA stating.

All exchange proposals must provide significant public benefits. If an exchange proposal doesn't result in public access, in the acquisition of critical wildlife habitat, in improved management, or in the acquisition of some other significant resource value, the exchange proposal will not be pursued.

In summary, public land exchanges in Wyoming must:

- (1) serve the national interest,
- (2) meet public needs, and/or
- (3) provide significant public benefits.

Land exchanges may:

- (1) be used to acquire private inholdings in federal conservation areas,
- (2) consolidate or unite surface and subsurface estates, and
- (3) consolidate ownership and boundary changes to form more logical and efficient management areas.

Federal Land Exchange Facilitation Act (FLEFA)

This Act was passed in August 1988, and final regulations were published in November 1993. These regulations are process-oriented procedures and do not change basic federal or bureau policy toward acceptable exchange proposals.

2. Resource Management Plans (RMPs)

The resource and land use management decisions in BLM resource management plans (RMPs) are developed to allocate appropriate resource and land uses for the public lands. RMP decisions also establish practices to manage and protect public lands and resources, and they may identify lands suitable for consideration for disposal or acquisition. Public land users contribute to the development of RMPs by identifying problems, concerns, and issues involving the public lands in the planning areas; the BLM ensures that the environmental analyses for the RMPs and the RMP decisions are responsive to these issues and concerns, to the extent allowed by law. RMP decisions must also give consideration to and be consistent with state and local government land use plans, to the extent allowed by law.

Historical Context and the Great Divide RMP

RMPs are issue-driven documents. That is, public comment and BLM staff identify the public land and resource use problems, concerns, and issues that will be addressed in developing the RMP. Thus, RMPs strongly reflect the concerns in existence when they are prepared. Data was gathered for the Environmental Impact Statement (EIS) for the Great Divide RMP (Medicine Bow – Divide RMP Draft and Final EIS) between 1984-1986. The Final EIS was issued in February 1987, and the Record of Decision (ROD) for the Great Divide RMP was signed in November 1990.

This period marked the conclusion of the Asset Management Program. This initiative sought to dispose of unneeded or unused federal assets (including sale of federal lands). Proceeds from these sales were intended to reduce the national debt and agency operating costs. The program ended in 1986 after only a small amount of federal land was disposed of. In the Great Divide Resource Area (GDRA), 160 acres in Laramie County were sold. Another factor influencing the land tenure issue (sales and exchanges) in the RMP was the mineral industry “bust” from 1980-1982. With a decline in industry operations, population declined. Carbon County population declined from 22,000 in 1980 to approximately 16,000 in 1984. A declining economy and reduced land values contributed to a lessened interest in federal land exchanges or sales at that time.

Great Divide RMP Decisions

The Great Divide RMP addressed the land tenure issue within the context of the above circumstances and interests. The selections below from the RMP Draft EIS provide a clear summary of the intent of the land tenure decisions in the RMP.

The BLM’s management programs are affected by the broken landownership pattern in portions of the planning area. Implementing management plans on scattered lands is difficult because management practices on surrounding private lands tend to influence land use on public lands. Most of the small parcels lack legal public access, and unauthorized use is common. Often the costs of detecting and terminating trespass, managing grazing use, and processing rights-of-way and other applications for that land use exceed the monetary returns from such uses. Landownership adjustments present opportunities to improve this situation. Such adjustments can be made through sale or exchange.

Exchanges serve several purposes, among them consolidation of landownership to facilitate resource management. Exchanges also can help in the accomplishment of resource management programs by enabling the BLM to acquire land with high public resource values.

Cities and towns in the planning area may need to acquire land for expansion purposes. These include Baggs, Bairoil, Creston Junction, Rawlins, Red Desert, and Wamsutter. Bairoil's needs are critical because public land is conflicting with the town's orderly expansion. The growing community is surrounded by "blocked" public land. Landownership adjustments present an opportunity to address this problem.

An easement acquisition program in the checkerboard would provide access only to public lands within, at most, one mile of the particular road acquired. However, there are opportunities in the planning area for acquisition of public access to areas that could meet important resource management objectives. Acquisition of easements can be accomplished through either the exchange program or the access program. (p. 109-110).

The Great Divide RMP identifies approximately 66,000 acres as "available for consideration for disposal" by employing the "isolated, difficult or expensive to manage, or need-for community expansion" disposal criteria in FLPMA. These lands are specifically identified on Maps 10-13 of the RMP. They comprise all the public lands in Laramie County, most of the public lands in southern Albany County, and selected parcels around the communities of Baggs, Bairoil, Creston Junction, Rawlins, Red Desert, Saratoga, and Wamsutter. No other specific, potential public land disposal areas are identified in the RMP. It should be also noted that the inventory of public lands that meet the FLPMA disposal criteria was not completed for the entire RMP planning area. The RMP will be updated to include wording to clarify that these lands are simply those that were identified during the planning effort as meeting the FLPMA disposal criteria, but no RMP decision has been made to the effect that they will be disposed of or that they are the only public lands in the planning area that may be considered for disposal. The RMP does state, "Proposals for disposal of lands not identified as meeting the FLPMA criteria will be considered if they are consistent with the objectives of the RMP" (p.15). The RMP also states, "The preferred method of disposal or acquisition of lands by BLM will be through exchanges" (p.15).

The RMP does not identify land acquisition areas but does identify areas needing improved access.

The RMP Decisions in Current Context

Land ownership adjustment was not a primary issue during development of the Great Divide RMP and is addressed in the RMP in only a narrow context. Consequently, there is little guidance in the RMP as to how land exchanges should be pursued or what priority they should receive.

Certain phrases used in the RMP decisions are unclear as to their intent when applied to current land exchange proposals. Following is the clarification of these terms in relation to exchanges.

The wording to “**protect, maintain or improve**” is applied to a variety of resource decisions in the RMP, for example, “maintain or improve ... high priority standard habitat sites” or “protect, maintain and control a viable, healthy herd of wild horses” (p.41). The use of this term in relation to any resource does not preclude disposal of public lands upon which these resources occur or rely. The operative objective of these decisions is toward the resource as a whole. If disposal of public lands containing a specific resource will not reduce the bureau’s ability to protect, maintain, or improve, or if through the exchange, private lands would be acquired that would advance the resource objectives, then the exchange would be consistent with RMP objectives.

The concept of **blocking public land into larger parcels** (considering landownership), and the relative size of those parcels, is an ill-defined concept in the RMP. Blocking public land into larger parcels, absent any other resource benefits, is not necessarily in the public interest. In additions, there is no minimum size of block that would automatically preclude consideration of an exchange proposal. Certainly, the larger the block, the more efficient and effective future land management would be. However, highly-valued, narrowly-distributed resources could make consolidation of a relatively few acres a reasonable land exchange proposal. This can apply to a block of federal land with valuable or unique resources in an area that is dominated by private land or it can refer to creating large blacks of federal and private land in areas of checkerboard land ownership. Consolidation of land ownership in and of itself, however, is not sufficient justification for pursuing an exchange.

The issue of exchanging **like-for-like resources** and **lands within the immediate vicinity of each other** also influences the feasibility of an exchange proposal. If the resources on proposed exchange parcels are similar, there would be less disagreement over the relative value of these lands. However, parcels are seldom alike. Thus, the bureau must consider giving up one type of resource to acquire another. Such disparity does not in and of itself preclude consideration of an exchange proposal. Experience has shown that the more dissimilar the lands, the more difficult the proposal will be to complete. As with resources, if parcels are adjacent, or at least, near each other, the proposal would be less complicated than if the parcels are widely separated.

3. Land Exchange Criteria

The final part of this document will clarify the possibilities for land exchanges within the context of RMP decisions. If land exchanges involved identical lands and resource of equal value, and met the differing objectives of private landowners and federal agencies, there would be little controversy about these proposals. In real situations this is never the case. Land exchanges often include a diverse mix of resources on often dissimilar lands, located at some distance from each other. The larger the exchange proposal, the greater, or more complex, the dissimilarities.

For each of the resource categories below, a range of attributes, from more to less acceptable, is given in the context of land exchange proposals. Some attributes may preclude disposal and others will have little or no influence on evaluating a proposal. A point ranking system will not be used because the variable nature of these issues is best addressed through a qualitative, narrative format.

General Criteria

All land exchanges will be in conformance with national BLM policy in BLM Manual 2200 and Wyoming BLM Policy in WY-IM-96-067, summarized above.

The public lands identified on Maps 10-13 of the RMP meet the FLPMA criteria and are suitable for disposal consideration.

Land exchanges should improve BLM's public land and resource management capabilities. This can be achieved by protecting resources and/or implementing management actions on acquired public land or disposing of public lands that are difficult or expensive to manage and which contain little public value.

Land exchanges should create more logical and efficient land ownership patterns. This can be accomplished by making boundaries less irregular, matching legal and physical access or boundary areas, and reducing the number of ownership parcels, either federal or nonfederal, in an area. Every effort will be made to preserve or enhance public access through the exchange process.

Conservation easements or other protective covenants are occasionally used to provide for continued protection of valuable public resources when the land itself is transferred out of federal ownership.

Areas of Critical Concern (ACEC)

ACECs are “areas within the public lands where special management attention is required...to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from hazards” [FLPMA, Sec 103 (a)]. Neither FLPMA nor the Great Divide RMP decisions concerning the four designated ACECs in the RMP planning area preclude disposal of public lands within an ACEC.

The attribute scale for land exchanges involving ACEC's is:

- Nonfederal land within an ACEC for public land outside the ACEC boundary.
- Nonfederal land for public land within an ACEC (land ownership consolidation), provided the integrity and management objectives of the ACEC could be maintained, wither by the new land ownership alignment or by a conservation easement on the disposed public land.
- A proposal that results in a better defined ACEC boundary, provided the management objectives of the ACEC are preserved on the disposed public land.
- Public land within an ACEC for nonfederal land outside an ACEC, provided the management objectives of the ACEC are preserved on the disposed public land.

In addition to the general ACEC attribute scale, any land exchange proposal that would improve public access in the Jep Canyon or Shamrock Hills ACEC's would improve a land exchange proposal's ranking.

Cultural Resources

- Public lands containing cultural resources that are neither eligible for nor enrolled on the National Register of Historic Places (Register) or historic trail segments that do not contribute to eligibility for or enrollment on the Register will be considered for exchange.
- Public lands that contain properties that are eligible for or enrolled on the Register will not be considered for exchange unless impacts to

the cultural resources are mitigated by data recovery, documentation, or other acceptable procedure or the cultural resources are reserved to the United States in the patent.

- Public lands that contain contributing historic trail segments will not be considered for exchange, unless the contributing trail segments plus a quarter-mile buffer on both sides of the trail are reserved for the United States in the patent. The setting of the trail would be considered in any exchange.
- Consolidation of National Register-eligible historic or contributing trail segments into federal ownership is acceptable, even if other isolated trail segments on public lands are exchanged, provided, public access to the trail in general is enhanced and/or endangered segments are brought into federal ownership.
- Exchange of public lands containing cultural resources on or eligible for the Register if the nonfederal lands to be acquired held some other resource of exceptional public value (eg., endangered species critical habitat).
- A land exchange involving federal and nonfederal cultural resources of approximately equal amount and value. (It would be difficult to achieve this criterion because identification of like resources would require an inventory of all acquired parcels).

National Natural Landmarks (NNL)

- Nonfederal land within an NNL for public land outside of the NNL boundary.
- Public land for nonfederal land within an NNL (land ownership consolidation), provided the integrity and management objective of the NNL could be maintained, either by the new land ownership alignment or by a conservation easement on the disposed public land.
- A proposal that results in a better defined NNL boundary, provided the management objectives of the NNL are preserved on the disposed public land by a conservation easement.

- Public land within an NNL for nonfederal land outside the NNL, provided the integrity and management objectives of the NNL could be maintained.

Paleontological Resources

- Public lands which contain paleontological resources that are of low value would be considered for exchange.
- Public lands which contain paleontological resources of high scientific importance (usually vertebrate fossils) would not be considered for exchange unless the paleontological resource impacts are mitigated by data recovery or documentation or the paleontological resources are reserved to the United States in a patent.
- An exchange of public lands containing high-value paleontological resources, if the nonfederal lands to be acquired hold some resource of exceptional public value (eg., endangered species critical habitat) would be low preference.
- A land exchange involving federal and nonfederal paleontological resources of approximately equal amount and value would also be low preference. (It would be difficult to achieve this criterion because paleontological resources are inventoried after the exchange parcels are identified, and many are not discovered by a surface examination).

Forest Resources

- The presence of merchantable timber, in and of itself, would not preclude disposal of public lands. Timber values must be considered along with other land values to meet equal-value exchange requirements.
- Public lands adjacent to and having a common boundary with a national forest, or when an existing access road exists, would have an extremely low priority for exchange.

Existing Lands Authorizations and Designations

- Existing right-of-way (ROW) grants will not prevent those public lands containing ROWs from being disposed of. The patent will

require the preservation of the existing authorization until the end of the grant.

- Public lands containing classifications or that are withdrawn from the general land laws (eg., Recreation and Public Purposes Act, Desert Land Act, Power Site Classification, Public Water Reserve withdrawals, Stock Driveway withdrawals, or various mineral withdrawals) are low priority for exchange. However, many of the classification and withdrawal designations are out of date and have not been administratively reviewed and adjusted. If such a designation is present on a selected public land parcel, it should be evaluated according to its own circumstances.

Livestock Grazing Management and Vegetation

- Isolated parcels of public land within predominately private land grazing allotments for nonfederal land outside the grazing allotment. The elimination of isolated parcels of public land from grazing allotments, thereby eliminating the need for continuation of a BLM-administered grazing allotment, would reduce the administrative workload of the BLM and would therefore be a benefit of a land exchange.
- The gain or loss of a particular vegetation type or amount of forage (animal unit months) will not preclude consideration of public lands for disposal.

Mineral Resources

Mineral values will be considered, along with surface values, in determining the total exchange value of land parcels. The extent of mineral deposits is seldom known with a high degree of accuracy. This uncertainty can introduce an element of controversy into an exchange proposal.

- Land exchanges that propose to exchange both surface and mineral estate are preferable to those that do not, provided the total values are equal.
- Proposals that eliminate a mineral and land surface split estate ownership situation by creating a united mineral and land surface ownership are also preferable.

- Lands containing mining claims filed under the General Mining Law may be considered for exchange. Prior to exchange, claims would have to be relinquished by the claimant or a validity exam completed.

Recreation Sites and Special Recreation Management Areas (SRMA)

Continental Divide SRMA and North Platte River SRMA:

- Preferred land exchanges would provide access to and along the Continental Divide National Scenic Trails SRMA and the North Platte River SRMA while disposing of public land outside these areas.
- Exchange of public land along or within either SRMA would require that access be preserved through an easement or reservation.

Shirley Mountain Caves SRMA:

- Nonfederal land within the SRMA for public land outside but not adjacent to the SRMA boundary.
- Nonfederal land within the SRMA for public land outside and adjacent to the SRMA boundary.
- Public land for nonfederal within the SRMA (land ownership consolidation), provided the integrity and management objectives of the SRMA could be maintained, either by the new land ownership alignment or by a conservation easement on the disposed public land.
- Public land within the SRMA for nonfederal land outside, but adjacent to the SRMA, provided the integrity of and management objectives of the SRMA are not impaired.
- Any exchange proposal that resulted in a better-defined SRMA boundary, provided the integrity and management objectives of the SRMA are not impaired.
- Public lands in the SRMA for nonfederal land outside the SRMA, provided the management objectives of the SRMA are preserved on the disposed public land by conservation easement, would be a low priority.

Other Recreation Sites

- Developed recreation sites on public lands (and appropriate buffers around them) would be considered low priority for exchange.

Soil Resources

This section includes consideration of soil productivity, erosion potential, and geologic hazards, such as subsidence and landslide areas.

- Acquisition of nonfederal land containing native, undisturbed vegetation for disturbed or unreclaimed public land.
- Acquisition of nonfederal land that contains geologic hazards known to pose an immediate threat to human health or safety would be low priority. Special circumstances may arise that would make acquisition of a particular geologic hazard advantageous to the BLM (eg., extremely precipitous canyon/cliff country that is very hazardous to human health and safety but is excellent raptor habitat).
- Acquisition of nonfederal land with an ongoing accelerated erosion process, requiring immediate expenditure of funds to correct, for public land would be a low priority (unless BLM was cooperatively working with other agencies to meet national or regional water quality objectives).

Visual Resource Management (VRM)

- VRM classification will not preclude consideration of public lands for exchange.
- BLM exchange of public land in Class I or II VRM areas will be a low priority, unless in special circumstances a conservation easement protects the visual integrity of the area.

Water/Wetlands/Riparian

- Proposals that acquire more wetlands and/or riparian areas than are disposed of.
- Proposals that exchange essentially the same amount, type, and quality of wetlands or riparian areas.

- Proposals that dispose of more wetlands and/or riparian areas than are acquired by BLM, provided the wetlands/riparian areas are protected by a conservation easement.
- Lowest preference for consideration is given to proposals that dispose of more wetlands and/or riparian areas than are acquired by BLM, in order to acquire some other valuable resource or lands, with no conservation easement protection of the disposed public lands.

Wild Horses

- Proposals that acquire more nonfederal land within wild horse herd management areas than are disposed of.
- Proposals that exchange essentially the same amount, type, and quality of wild horse herd management area.
- Proposals that dispose of more wild horse herd management area lands than are acquired by BLM, or that create isolated parcels of nonfederal land within wild horse herd management areas, in order to acquire some other valuable resources or lands.

Wildlife, T&E, and Sensitive Plants Habitat

Crucial Winter Ranges for Big Game:

Consideration of crucial winter ranges (CWR) in land exchanges must include evaluation of species type, different range areas, quality of the range herd population levels and health, and the results of consultation with the Wyoming Game and Fish Department. Generally, exchange proposals involving CWR for multiple big game species would have preference over proposals involving CWR for only one big game species. Each proposal, however, will be considered on its own merits. Exchange proposals may involve CWR for pronghorn antelope, mule deer, elk, moose, big horn sheep and/or white-tailed deer. Examples of proposals which would be considered (but not listed in any priority order) are:

- Proposals that acquire more CWR than is transferred to nonfederal ownership for one or more big game species in the same CWR.

- Proposals in which poor-quality public land CWR is exchanged for better-quality CWR for one or more big game species in the same CWR.
- Proposals that exchange nearly equal acreages of CWR, for the same or multiple species, in the same CWR.
- Proposals where CWR is transferred from federal ownership to nonfederal ownership, but the former federal lands (and the habitat) are preserved by a conservation easement.

Strutting/Dancing Grounds and Nesting Habits

Generally, proposals involving sage grouse or sharp-tailed grouse strutting/dancing grounds and nesting habits would be evaluated on the basis of the quality of the habitat, the local population levels/histories, and the results of consultation with the Wyoming Game and Fish Department. Examples of proposals which would be considered (but not listed in any priority order) are:

- Proposals which acquire more of these habitats than are transferred into nonfederal ownership.
- Proposals that result in exchange of approximately equal amounts of these types of habitat.
- Proposals that result in a net federal reduction in acres of these types of habitats, but the former public lands (and the habitat values) are preserved by a conservation easement.
- Proposals that result in more acres of these habitats transferred into nonfederal ownership than are acquired.

Threatened, Endangered, Sensitive Species

Proposals involving the acquisition of T&E or otherwise sensitive plant or animal species habitat would generally be considered high priority actions. Proposals could involve black-footed ferret or mountain plover habitat (prairie dog colonies), Ute-ladies tresses habitat, or habitat associated with other special status species. Generally proposals would be evaluated on the basis of the quality of the habitat, the acreage of habitat involved, and the results of consultation with both the US Fish and Wildlife Service and the Wyoming Game and Fish Department. Examples of proposals would be

similar to those described above for big game species and for sage/sharp-tailed grouse.

Wilderness Study Areas (WSA)

- High priority is given to land exchange proposals in which nonfederal inholdings within WSA boundaries are acquired for federal ownership.

Generally, lands under wilderness review may not be disposed of through any means, including exchanges.

APPENDIX H

STANDARD SPECIAL COAL STIPULATIONS

In addition to observing the general obligations and standards of performance set out in the current regulations, the lessee shall comply with and be bound by the following special stipulations.

These stipulations are also imposed upon the lessee's agents and employees. The failure or refusal of any of these persons to comply with these stipulations shall be deemed a failure of the lessee to comply with the terms of the lease. The lessee shall require his agents, contractors and subcontractors involved in activities concerning this lease to include these stipulations in the contracts between and among them. These stipulations may be revised or amended, in writing, by the mutual consent of the lessor and the lessee at any time to adjust to changed conditions or to correct an oversight.

(a) *CULTURAL RESOURCES* -

(1) Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the Authorized Officer of the BLM or of the surface managing agency, if different, on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease-related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archeologist, historian, historical architect, as appropriate), approved by the Authorized Officer of the surface managing agency (BLM, if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Assistant Director of the Western Support Center of the Office of Surface Mining, the Authorized Office of the BLM, if activities are associated with coal exploration outside an approved mining permit area (hereinafter called Authorized Officer), and the Authorized Officer of the surface managing agency, if different. The lessee shall undertake measures, in accordance with instructions from the Assistant Director, or Authorized Officer, to protect cultural resources on the leased lands. The lessee shall not commence the surface disturbing activities until permission to proceed is given by the Assistant Director or Authorized Officer.

(2) The lessee shall protect all cultural resources properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation or exploration plan.

- (3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

STANDARD SPECIAL COAL STIPULATIONS

- (4) If cultural resources are discovered during operations under this lease, the lessee shall immediately bring them to the attention of the Assistant Director or Authorized Officer, or the Authorized Officer of the surface managing agency, if the Assistant Director is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the Assistant Director or Authorized Officer.

Within two (2) working days of notification, the Assistant Director or Authorized Officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the Authorized Officer of the BLM or of the surface managing agency, if different.

- (5) All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

(b) ***PALEONTOLOGICAL RESOURCES*** - If paleontological resources, either large and conspicuous, and/or of significant scientific value are discovered during mining operations, the find will be reported to the Authorized Officer immediately. Mining operations will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils or significant scientific interest discovered during the operations.

(c) ***MULTIPLE MINERAL DEVELOPMENT*** - Operations will not be approved which, in the opinion of the Authorized Officer, would unreasonably interfere with the orderly development and/or production from a valid existing mineral lease issued prior to this one for the same lands.

(d) ***OIL AND GAS/COAL RESOURCES*** - The BLM realizes that coal mining operations conducted on Federal coal leases issued within producing oil and gas fields

may interfere with the economic recovery of oil and gas; just as Federal oil and gas leases issued in a Federal coal lease area may inhibit coal recovery. BLM retains the authority to alter and/or modify the resource recovery and protection plans for coal operations and/or oil and gas operations on those lands covered by Federal mineral leases so as to obtain maximum resource recovery.

STANDARD SPECIAL COAL STIPULATIONS

(e) **RESOURCE RECOVERY AND PROTECTION** - Notwithstanding the approval of a resource recovery and protection plan (R2P2) by the BLM, lessor reserves the right to seek damages against the operator/lessee in the event (i) the operator/lessee fails to achieve maximum economic recovery (MER) (as defined at 43 CFR 3480.0-5(21)) of the recoverable coal reserves or (ii) the operator/lessee is determined to have caused a wasting of recoverable coal reserves. Damages shall be measured on the basis of the royalty that would have been payable on the wasted or unrecoverable coal.

The parties recognize that under an approved R2P2, conditions may require a modification by the operator/lessee of that plan. In the event a coal bed or portion thereof is not to be mined or is rendered unmineable by the operation, the operator/lessee shall submit appropriate justification to obtain approval by the Authorized Officer (AO) to leave such reserves unmined. Upon approval by the AO, such coal beds or portions thereof shall not be subject to damages as described above. Further, nothing in this section shall prevent the operator/lessee from exercising its right to relinquish all or portion of the lease as authorized by statute and regulation.

In the event the AO determines that the R2P2, as approved, will not attain MER as the result of changed conditions, the AO will give proper notice to the operator/lessee as required under applicable regulations. The AO will order a modification if necessary, identifying additional reserves to be mined in order to attain MER. Upon a final administrative or judicial ruling upholding such an ordered modification, any reserves left unmined (wasted) under that plan will be subject to damages as described in the first paragraph under this section.

Subject to the right to appeal hereinafter set forth, payment of the value of the royalty on such unmined recoverable coal reserves shall become due and payable upon determination by the Authorized Officer that the coal reserves have been rendered unmineable or at such time that the operator/lessee has demonstrated an unwillingness to extract the coal.

The BLM may enforce this provision either by issuing a written decision requiring payment of the MMS demand for such royalties, or by issuing a notice of noncompliance. A decision or notice of noncompliance issued by the lessor that payment is due under

this stipulation is appealable as allowed by law.

(f) ***PUBLIC LAND SURVEY PROTECTION*** - The lessee will protect all survey monuments, witness corners, reference monuments, and bearing trees against destruction, obliteration, or damage during operations on the lease areas. If any monuments, corners or accessories are destroyed, obliterated, or damaged by this operation, the lessee will hire an appropriate county surveyor or registered land surveyor to reestablish or restore the monuments, corners, or accessories at the same locations, using the surveying procedures in accordance with the “Manual of Surveying Instructions for the Survey of the Public Lands of the United States.” The survey will be recorded in the appropriate county records, with a copy sent to the Authorized Officer.

APPENDIX I

THE RAWLINS FIELD OFFICE WEED PREVENTION PLAN OF APRIL 1999

General Management Actions in this plan include:

- Applying integrated management practices.
- Emphasizing disturbances of areas such as roads, rights-of-way, and recreation sites.
- Detecting new invaders first and controlling small populations of priority second.
- Continuing public education in local area.
- Emphasizing mechanical control, but also using biological control and herbicides where such methods are effective.

Land Use Planning Management Actions include:

- Working with Federal, county and city planning staff and zoning committees to include consideration for noxious weed management when developing or approving plans, permits or leases.
- Including weed risk factors and weed prevention considerations in all environmental analyses for projects, permits, plans, alternative development, etc.

Surface Disturbance Management Actions include:

- Minimizing the amount of surface disturbance when possible to reduce area for weed establishment.
- Reestablishing vegetation on all disturbed soil from construction, reconstruction and maintenance activities, except road travelways.
- Accomplishing reseeding during the first available window of opportunity.
- Requiring certified noxious weed free seed or testing at a suitable laboratory before allowing the use of the seed for any reclamation or rehabilitation project.
- Requiring certified weed-free straw or hay for use as mulch.
- Requiring power or high pressure cleaning of construction equipment prior to moving into relatively weed-free areas and/or leaving known weed infested areas. This currently is used on multi-State and multi-county projects.
- Inspecting gravel pits and fill sources to insure the material comes from weed-free sources.
- Monitoring the construction site for weed control needs until vegetation is re-established.
- Retaining reclamation bonds for weed control until the site is returned to the desired vegetative condition.

- Removing weed seed sources from adjacent sites or from the access route that may contaminate the construction site.

Vehicle Management Actions include:

- Surveying roads for the presence of weed sources before maintenance activities.
- Controlling weeds if necessary before maintaining the roadway.
- Reseeding disturbed areas that are not part of the road running surface or needed for maintenance purposes.
- Retaining desirable roadside vegetation to discourage weeds.
- Removing seed sources or control weeds that could be picked up by passing vehicles on significant access routes.
- Requiring power or high pressure cleaning of off-road equipment before moving into relatively weed free areas.
- Ensuring that weed prevention and related resource protection is considered in travel management plans.
- Closing or reducing the number of vehicle trails in weed-infested areas to reduce the spread of weeds.

Livestock Management Actions include:

- Avoiding trailing livestock through weed-infested areas.
- Where possible, trailing on roadways where detection of weeds is more likely to occur.
- Allowing only certified weed free hay and grain (whole, rolled, steamed or cubed) or pelletized feeds to be fed on Federally managed lands (Emergency feeding may be exempted with written authorization from the Field Manager).
- Managing grazing allotments to prevent excessive soil disturbance at salt licks, watering sites and other livestock concentration areas.
- Avoiding grazing any reseeded sites until vegetation is well established.
- Holding livestock used in cultural management of weeds in a weed-free environment for a period of time before and after moving them into the weed management area (This is to allow the animals to clean their digestive tract of weed seeds).

Recreation Site Management Actions include:

- Ensuring that areas under recreation permit have on site weed control and minimize the spread to other areas.
- Requiring that all pack and saddle stock use only certified weed-free feeds and straw bedding.
- Signing trailheads and campgrounds for weed awareness, weed prevention, and weed reporting techniques.

Fire Management Actions for Prescribed and Wild fires include:

- Requiring the cleaning of fire equipment following fire activities in weed-infested areas (if possible, complete the cleaning before leaving the fire site).
- Considering weed prevention measures in all fire rehabilitation plans by including the weed coordinator on the rehabilitation team.
- Requiring certified weed free seed or testing at a suitable laboratory before allowing the use of the seed in fire rehabilitation projects.
- Emphasizing "light hand" fire suppression tactics to minimize the amount of surface disturbance.
- Avoiding staging equipment and resources in weedy areas.
- Avoiding off road travel in weed-infested areas.
- Establishing a weed control and monitoring plan, and requiring that a map of weeds in the area should be in place as part of the environmental analysis before conducting any prescribed burn.
- Include funding in budget for weed control and monitoring.

Land Management Actions include:

- Evaluating private lands being considered for Federal acquisition through purchase, exchange or donation for the presence of noxious weeds.
- Partnering with private landowners as much as possible to control weeds on private land.
- Including a requirement to control and manage noxious weeds on Federally authorized actions.

Early Detection Management Actions include:

- Providing training to field personnel in the identification of weed species known to occur in the area and preventative measures they are expected to follow (special attention should be given to equipment operators and fire personnel).
- Making weed identification handbooks available to all field going personnel.
- Making inventory and weed occurrence information readily available to field personnel and personnel actively involved in planning and designing projects.
- Encouraging field staff, landowners and managers to recognize and document weed populations.
- Developing education and awareness programs where visitors and users of the lands assist managers in locating and identifying new invader species.
- Conducting systematic and periodic inventories to detect new weed infestations.

APPENDIX J

AIR QUALITY REGULATIONS

The basic framework for controlling air pollutants in the United States is mandated by the 1970 Clean Air Act and its amendments, and the 1999 Regional Haze Regulations. The Clean Air Act addresses criteria air pollutants, State and national ambient air quality standards for criteria air pollutants and the Prevention of Significant Deterioration program. The Regional Haze Regulations address visibility impairment.

J.1 POLLUTANTS

Air pollutants addressed in this study include criteria pollutants, hazardous air pollutants (HAP) and sulfur and nitrogen compounds, which could cause visibility impairment or acid rain.

CRITERIA POLLUTANTS

Criteria pollutants are those for which national standards of concentration have been established. Pollutant concentrations greater than these standards represent a risk to human health. Criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone (O₃), particulate matter (PM₁₀, PM_{2.5}), and lead (Pb).

Carbon Monoxide

CO is an odorless, colorless gas formed during any combustion process, such as operation of engines, fireplaces, and furnaces. High concentrations of CO affect the oxygen-carrying capacity of the blood and can lead to unconsciousness and asphyxiation. Wildfires are natural sources of CO.

Nitrogen and Sulfur Compounds

NO₂ is a red-brown gas formed during operation of internal combustion engines. Such engines emit a mixture of nitrogen gases, collectively called nitrogen oxides (NO_x). NO₂ can contribute to brown cloud conditions, and can convert to ammonium nitrate particles and nitric acid, which can cause visibility impairment and acid rain. Bacterial action in soil can be a natural source of nitrogen compounds.

SO₂ forms during combustion from trace levels of sulfur in coal or diesel fuel. It can convert to ammonium sulfate ((NH₄)₂SO₄) and sulfuric acid (H₂SO₄), which can cause visibility impairment and acid rain. Volcanoes are natural sources of SO₂.

Anthropogenic sources include refineries and power plants.

Sulfur and nitrogen compounds that can be deposited on terrestrial and aquatic ecosystems include nitric acid (HNO₃), nitrate (NO₃⁻), ammonium (NH₄⁺), and sulfate (SO₄⁻). Nitric acid (HNO₃), and nitrate (NO₃⁻) are not emitted directly into the air, but

form in the atmosphere from industrial and automotive emissions of nitrogen oxides (NO_x). Sulfate (SO_4^{2-}) is formed in the atmosphere from industrial emission of sulfur dioxide (SO_2). Deposition of HNO_3 , NO_3^- and SO_4^{2-} can adversely affect plant growth, soil chemistry, lichens, aquatic environments, and petroglyphs. Ammonium (NH_4^+) is associated with feedlots and agricultural fertilization. Deposition of NH_4^+ can affect terrestrial and aquatic vegetation. While deposition may be beneficial as a fertilizer, it can adversely affect the timing of plant growth and dormancy.

Ozone

O_3 is a faint blue gas that is generally not emitted directly into the atmosphere, but is formed from NO_x and volatile organic compound (VOC) emissions. As stated above, internal combustion engines are the main source of NO_x . Volatile organic compounds, like terpenes, are very reactive. Sources of VOC include, but are not limited to, paint, varnish and some types of vegetation. The faint acrid smell common after thunderstorms is due to ozone formation by lightning. O_3 is a strong oxidizing chemical that can burn lungs and eyes, and damage plants.

Particulate Matter

Particulate matter (e.g., soil particles, hair, pollen, etc.) is essentially small particles suspended in the air that settle to the ground slowly and may be re-suspended if disturbed. Separate allowable concentration levels for particulate matter are based on the relative size of the particle:

- PM_{10} , particles with diameters less than 10 micrometers, are small enough to be inhaled and can cause adverse health effects.
- $\text{PM}_{2.5}$, particles with diameters less than 2.5 micrometers, are so small that they can be drawn deeply into the lungs and cause serious health problems. Particles in this size range are also the main cause of visibility impairment.

Lead

Before the wide use of unleaded fuel for automobiles, lead particles were emitted from tailpipes. The lead standard will not be addressed in this MSA because proposed projects will have no lead emission sources.

HAZARDOUS AIR POLLUTANTS

There are a wide variety of hazardous air pollutants (HAPs) including N-hexane, ethylbenzene, toluene, xylene, formaldehyde, and benzene. Although HAPs do not have Federal standards, they may have “significance thresholds” established by some states and are typically evaluated for potential chronic inhalation and cancer risks.

Hazardous air pollutant emissions are associated with industrial activities, such as oil and gas operations, refineries, paint shops, dry cleaning facilities, and wood working shops. For example, the Rawlins BLM Field Office produces the large signs marking the

entrances to BLM-managed lands. The Wyoming Department of Environmental Quality has determined that the emissions from the sign shop are insignificant in emission rate and ambient air quality impact (Olson 2002).

J.2. WYOMING AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Wyoming Ambient Air Quality Standards (WAAQS) and National Ambient Air Quality Standards (NAAQS) set the absolute upper limits for criteria air pollutant concentrations at all locations to which the public has access. The WAAQS and NAAQS are legally enforceable standards. Concentrations above the WAAQS and NAAQS represent a risk to human health. State standards must be equally or more strict than Federal standards.

The EPA has developed standards for each criteria pollutant for a specific averaging time (Table J-1). Short averaging times (1, 3, and 24 hours) address short-term exposure while the annual standards address long-term exposure. Longer-term standards are set to lower allowable concentrations than are short-term standards to recognize the cumulative effects of long-term exposure.

J.3. PREVENTION OF SIGNIFICANT DETERIORATION

The goal of the Prevention of Significant Deterioration (PSD) program is to ensure that air quality in areas with clean air does not significantly deteriorate, while maintaining a margin for future industrial growth. Under PSD, each area in the United States is classified by the air quality in that region according to the following system:

- PSD Class I Areas: Areas with pristine air quality, such as wilderness areas, national parks and Indian reservations, are accorded the strictest protection. Only very small incremental increases in concentration are allowed in order to maintain the very clean air quality in these areas.
- PSD Class II Areas: Essentially, all areas that are not designated Class I are designated Class II. Moderate incremental increases in concentration are allowed, although the concentrations are not allowed to reach the concentrations set by Wyoming and Federal standards (WAAQS and NAAQS).
- PSD Class III Areas: No areas have yet been designated Class III. Concentrations would be allowed to increase all the way up to the WAAQS and NAAQS.

The incremental increases allowed for specific pollutants in Class I and Class II areas are provided in Table J-2.

Comparisons of potential NO₂ and SO₂ concentrations with PSD increments are intended only to evaluate a threshold of concern and do not represent a regulatory PSD Increment Consumption analysis. Regulatory PSD Increment Consumption analyses are solely the responsibility of the State of Wyoming, which has been granted primacy under the Clean Air Act.

J.4. REGIONAL HAZE REGULATIONS

Visibility impairment in the form of regional haze obscures the clarity, color, texture and form of what we see. Haze-causing pollutants (mostly fine particles) are directly emitted to the atmosphere or are formed when gases emitted to the air form particles as they are carried downwind. Emissions from human-caused and natural sources can be carried great distances contributing to regional haze.

Visual range, one of several ways to express visibility, is the furthest distance a person can distinguish a dark landscape feature from a light background like the sky. Without human-caused visibility impairment, natural visual range is estimated to average about 150 miles in the western United States and about 70 miles in the eastern United States.

The Regional Haze Regulations were developed by the EPA in response to the Clean Air Act Amendments of 1990. They are intended to maintain visibility on the least impaired days and improve visibility on the most impaired days in mandatory Federal Class I areas across the United States, so that visibility in these areas is returned to natural conditions by the year 2064. These regulations require states to submit a regional haze State Implementation Plan (SIP) and progress reports to demonstrate reasonable progress toward the 2064 goal.

Table J-1. National and Wyoming Ambient Air Quality Standards.

Pollutant	Averaging Time	NAAQS ($\mu\text{g}/\text{m}^3$)	WAAQS ($\mu\text{g}/\text{m}^3$)
Carbon Monoxide—CO	1 hour	40,000	40,000
	8 hour	10,000	10,000
Nitrogen Dioxide—NO ₂	Annual	100	100
Sulfur Dioxide—SO ₂	3 hour	1300	695
	24 hour	365	260
	Annual	80	60
Ozone—O ₃	1 hour	235	235
	8 hour	157	157
Particulate Matter—PM ₁₀	24 hour	150	150
	Annual	50	50
Fine Particulate Matter—PM _{2.5}	24 hour	65	65
	Annual	15	15

Table J-2. PSD Increments.

Pollutant	Averaging Time	PSD Increment ($\mu\text{g}/\text{m}^3$)	
		Class I	Class II
Nitrogen Dioxide—NO ₂	Annual	2.5	25
Sulfur Dioxide—SO ₂	3 hour	25	512
	24 hour	5	91
	Annual	2	20
Particulate Matter—PM ₁₀	24 hour	8	30
	Annual	4	17